



the **art** of *flow*

TECHNICAL CATALOGUE



www.fafvalve.com

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Kazan / Ankara
Factory

For more than 30 years since our establishment, we have been serving our partners, with absolute commitment to our values and the company spirit as a priority.



RELIABILITY

Our basics are established on trust. Main task has always been meeting the expectations of our stakeholders and fulfilling our promises without any doubt.



SUSTAINABILITY

Despite of the rapid changing trends of our era, we are striving to meet the expectations of our partners beyond satisfaction and keep our business sustainable in every circumstances.



BUSINESS ETHICS

Neither the toughness of the competition, nor the unstable market conditions or any other challenge cannot influence our business ethics, which forms the fundamentals of our company culture.

FAF VALVE, embarked on its business journey in 1986, to meet the requirements of customers and complete the deficiencies of the industry, to create permanent value and now reached a level of;

- Production plant with 16.000 m² area at Ankara-Kazan,
- Casting foundry with 10.000 m² area at Ankara-Baskent Industrial Zone,
- Warehouses and sales offices at Istanbul, Moscow and Dubai,
- More than 50 distributors at each and every region of Turkey,
- With its export to 60 countries around the world, continues its development.

FAF Valve has become a global brand; respected by its customers, employees, business partners and also competitors, taking company values and business ethics as a priority.

In the background of its success, there lies the corporate culture and the synergy created by its team; trust based sincere relationships established with customers and granting its revenue for development and improvement of the products & service quality.

The manufacturing program started with the ball valve and now with a scope of complete coverage of the industry needs with Ball, Butterfly, Gate, Globe Valve, Air Release Valve, Strainer, Check Valve, Expansion Joint and Hydrant. These products can be used in Heating-Cooling & Ventilation, Infrastructure, Treatment, Oil & Gas, Fire Fighting and Industrial applications.

As required by the position of the company in the market, to maintain the determined high standards, the production system and the organization of the company have been certified in accordance with international quality regulations.

Our main target is to be the most reliable manufacturer in our industry also in the future by preserving the corporate spirit and work motivation.



QUALITY MANAGEMENT SYSTEM CERTIFICATION

ISO 9001 Quality Management System
ISO 14001 Environmental Management System
OHSAS 18001 Occupational Health And Safety Management Systems
API SPEC Q1 Quality Management System

CE Certificate

API Monogram Certificate - Spec 6D
WRAS Potable Water Conformity Certificate
UL Approval – Fire Fighting
FM Approval – Fire Fighting
EAC/GOST Russian Federation Certificate
ADWEA Abu Dhabi UAE Certificate
UKR SEPRO Ukraine Certificate
MOW Bahrain Certificate

TSE CERTIFICATE

TS 12844 Service Qualification Certificate
TS 3148 Ball Valves
TS 9809 Ball Valves (Gas)
EN 331 Ball Valves for Gas Installation
TSE CEN/TS 13547 Copper Alloyed Ball Valves
EN 593 Butterfly Valves (Double Flanged)
EN 593 Butterfly Valves (Wafer & Lug Type)
EN 1171 Gate Valves
EN 12334 Check Valves
EN 13789 Globe (Steam) Valves
TS 11494 Strainers
TS 10880 Bellow Seal Expansion Joints
EN 14384 Fire Hydrants
EN 14432 Air Release and Air Inlet Valves

DSİ - Equipment Manufacturers Conformity Approval

API 607 Test Certificate for Fire Safe Valves
NACE Corrosion Test Certificate for Industrial Valves
WPAR Welding Procedure Approval Record

Brand Registration Certificate

Domestic Goods Certificate
GAZMER Product Approval Certificate

EN 331 Ball Valves
EN 9809 Ball Valves
TS 10880 Axial Expansion Joint



Mallköy / Ankara
Foundry



PRODUCTION PROCESS

Continuous improvement is carried out in manufacturing processes designed with optimum efficiency and high capacity.



200+
Employee



26.000 m²
Manufacturing Area



10.000 ton/year
Casting Capacity



Wide
Certificate Scope

design

Products are designed by our engineers using 3D design softwares (CAD). Designs are reviewed and validated by the use of simulation softwares.

modeling

3D product drawings are transformed into casting models with 2 model manufacturing machines and new products can get into production line very rapidly.

casting

At new casting foundry of FAF Valve, in three different casting lines, serial castings as a batch can be performed with sizes differing from 100 grams to 7 tons.

machining

Beside the standard CNC machines, the customized CNC machines designed by FAF Valve R&D department maintains cost effective, high capacity mass production.





Original
Equipment
Manufacturer

OEM

Production



60

Export Countries



35+

CNC Lathes



High

Inventory Level

assembly

At 6 different assembly lines, products are assembled by the most experienced production staff.

coating

Electrostatic Powder Coating & Industrial Epoxy Coating is applied on the products at specified criteria. Potable water conformity certificate is available.

testing

The products are hydrostatic pressure tested with a rate of 100% to ensure full functionality.

quality control

At every stage of production, quality control processes are precisely implemented and compliance reports are prepared at the end of production and presented to customers.



BALL VALVE

FAF 1200



Features

- FAF1200, PN 16 flanged ball valve is operating by a ball having a hole with the same size as the flow section, through the help of the stem, rotating quarter turn(90 degree) between teflon seats where the ball to be parallel or perpendicular to the flow axis.
- Can be installed bidirectional.
- Through the stainless steel belleville spring reinforced teflon (PTFE) seats, 100% tight sealing is achieved in lowest and highest pressure ratings.
- Can be installed directly to the pump without any need for additional intermediary parts.
- The compatibility of teflon material with various flow types and its resistance to higher temperatures enables it to be used in wide range of applications.
- It is appropriate to be used in fully open or fully closed position.
- In fully open position, since there is no reduction in flow section, the head loss is nearly zero.
- Can be operated with lower torque ratings.

Temperature

- +200°C

PRODUCTION STANDARTS

DN15 → DN250
PN 16

Design	DIN 3357
Connection	EN 1092-2 / ISO 7005-2
Face to Face	DN15-DN125: EN 558 Series 1 / DIN3202 F1 DN150: EN 558 Series 27 / DIN3202 F5
Marking	EN 19
Tests	EN 12266-1
Corrosion Protection	Industrial Epoxy

Product Description

FAF1200 series are robust and reliable flanged ball valves for fitting in between PN16 flanges. Body material in cast iron with stainless steel ball and stems are improving the durability of the valve. FAF1200 series are offering a large wide range of applications through to PTFE sealing.

Versions

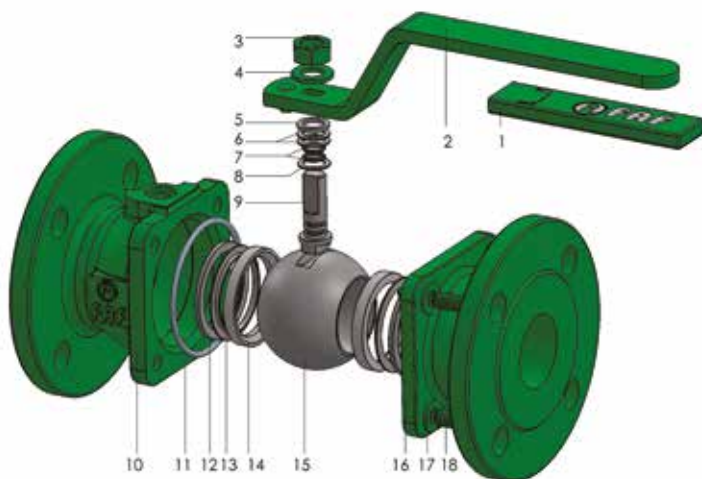
- Various ball, stem and body material alternatives available.
- Standard version with hand lever
- Prepared for electrical actuator
- With electrical actuator
- Gearbox
- Custom production for specific orders

Scope of Application

- Hot & cold water
- Low Pressure Steam
- Fluids without acidity or alkalinity properties
- Installation in plants
- Tanks
- Industry

BALL VALVE

FAF 1200



MATERIAL SELECTION

Body EN-GJL-250 OIL IRON / GG25

Ball 1.4301 - AISI 304 Stainless Steel
1.4401 - AISI 316 Stainless Steel

Stem 1.4021 - AISI 420 Stainless Steel
1.4301 - AISI 304 Stainless Steel
1.4401 - AISI 316 Stainless Steel

Sealing PTFE
Beleville spring

PRODUCTS MODEL CODES

FAF1200 BALL VALVE - PN16 - FULL BORE

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

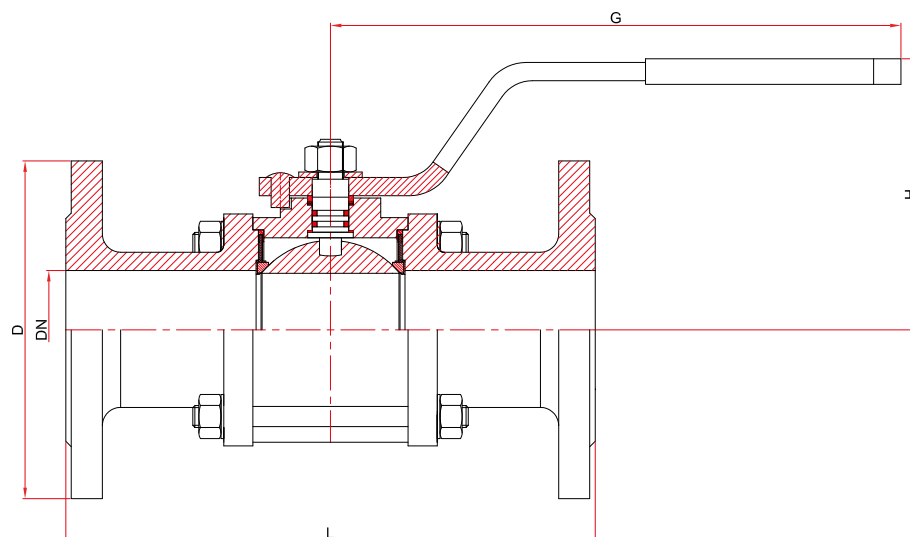
- For proper use and safety precautions please follow the installation and operating instructions.

NO	ITEM	MATERIALS
1	PLASTIC COVER FOR HANDLEVER	PVC
2	HANDLEVER	St-37 STEEL
3	SAFETY NUT	DIN 985
4	WASHER	DIN 125
5	COMPRESSION WASHER	C45 STEEL
6	PTFE WASHER	PTFE
7	O-RING	VITON
8	PTFE WASHER	PTFE
9	DRIVE SHAFT	STANLESS STEEL 1.4021
10	BODY FLANGE	EN GJL 250 OIL IRON
11	O-RING	SILICONE
12	BALL OUTSIDE SEALING GASKET	SILICONE
13	BELEVILLE SPRING	STANLESS STEEL 1.4016
14	BALL INNER SEALING GASKET	PTFE
15	BALL	STANLESS STEEL 1.4301 / 1.4016
16	FLANGE	EN GJL 250 OIL IRON
17	WASHER	DIN 125
18	BOLT	DIN 933

BALL VALVE

FAF 1200

Technical Details & Drawing, Dimensions



DN	DIMENSION				RATINGS			STUD SIZE	BOLT / NUT QTY	FASTENING MOMENT Nm	WRENCH SIZE (mm)
Ømm	D	L	H	G	KV m³/h	Tork Nm	Weight kg				
15	95	130	95	160	18	12	2,8	M12X50	4X2	85	19
20	105	150	110	180	35	12	4,4	M12X55	4X2	85	19
25	115	160	115	180	65	12	4,7	M12X55	4X2	85	19
32	140	180	115	250	115	12	5,9	M16X65	4X2	205	24
40	150	200	125	260	190	20	7,9	M16X65	4X2	205	24
50	165	230	130	260	310	20	10,7	M16X65	4X2	205	24
65	185	290	145	310	600	30	15,6	M16X65	4X2	205	24
80	200	310	155	350	950	35	21,6	M16X70	8X2	205	24
100	220	350	200	500	1630	45	37,5	M16X75	8X2	205	24
125	250	325	220	500	2700	70	51,1	M16X80	8X2	205	24
150	285	350	255	700	5000	115	75,3	M20X80	8X2	400	30
200	340	400	295	700	8000	175	107	M20X90	12X2	400	30
250	405	450	315	1000	12200	325	157,5	M24X100	12X2	691	36

Ball Valve Maintenance Instructions

Follow the instructions below to perform maintenance and cleaning of Ball Valves.

Dismounting

- Make sure that there is no fluid supply on the line where the valve is detached.
- Unscrewing the connection bolts and nuts in opposite pairs, detach the valve from the line.
- Unscrew the plug over the body with the help of the pins from the body.
- Flanged ball valves are made of flange and body. Unscrewing in opposite pairs of nuts take the nuts out and remove the flange.
- Turn the handle to closed position and pull the sphere out of the body by turning it slightly.
- Unscrew the nut on the handle. Remove the washer, handle, and the compression ring in written order.
- Remove the PTFE rings over the stem.
- Remove the stem pressing on it to drop inside the body.
- Remove the PTFE sealing cord from the flange.
- Remove the O-rings over the stem.

Inspection and cleaning

The following periodic preventative maintenance practices are recommended:

- Replace the sphere if excessive scratches and nicks are noted. If lime stains are observed on the sphere, clean the sphere in water with wet sandpaper (400). While maintenance processes, avoid damaging the sphere processed in 0,01mm sensitive CNC machines.
- The package of gasket set, consists of Inner belleville spring and Sphere inner sealing, is on the flange and body side. The inner and outer rings of the gasket package should not have any cracks, tears or cuts observed, or the angled surfaces of the inner ring that meet with the ball should not involve any deep scratches or collapses. The stainless rings should not be deformed. If any of these above exists, demount the gasket package set from the flange and the body and request a new one from our company.
- You may request a new cover gaskets from our company or you may have 1,5 mm Klingerit gasket material cut according to the gasket seat.
- PTFE rings over the stem and O-rings must be replaced with new ones.
- Epoxy coultier priming coat is applied on the inner surfaces of the body and the flanges, however, if there exists oxidations, these regions must be cleaned and repainted with similar coatings.
- Do not paint the stem hole and the flangepacking set compression surface.
- Do not paint the stem hole and flange-packing gasket surface.
- Inspect stud threads and nuts. Replace deformed or rusty parts.
- Clean all materials carefully and proceed to mounting.

Mounting

- Place the PTFE ring of the stem and the Orings. Lightly grease the surfaces of the O-rings. Mount the stem through body cavity without damaging O-rings.
- On the upper side, mount the PTFE rings, compression ring, handle, washer and the nut respectively.
- Mount the packing set on the body as the inner rings will face the sphere.
- Turn the handle to closed position; place the sphere inside the body as the canal on the sphere will be parallel to the stem key.
- Check if the sphere can freely move forward, back, up and down inside the body cavity.
- Mount the packing set (as the inner rings will face the sphere) and the PTFE ring on the flange. Position the mounted body between two flanges, place studs, nuts and washers and tighten the nut in opposite pairs to eliminate the gaps.

Note

It is highly recommended to open and close our valves once in 15 days for a longer service life after installation.

BALL VALVE

FAF 1200

Operating Instructions

Inspection On Delivery

1. Check for possible damage in shipment, conformance to specifications, opening direction, shortages, etc.
2. Carefully unload all valves - do not drop valve - do not lift valve using gearing, bypass or other appendage as a hook.
3. Valve should be opened and then closed to make sure it works properly. Also check opening direction against the order instruction.
4. Any problems should be reported immediately to delivery company and note on bill of lading, signed by the driver on customer's copy.

Inspection Before Installation

1. Check to see the valve end-joints are clean.
2. The valve should not be damaged.
3. Open and close valve - make sure it works properly.
4. Keep valve closed when placing in trench.
5. Inspect casting for damage.
6. Inspect epoxy coating and repair breaks using compatible coating material.

Testing

1. Do not backfill valves before hydrostatic system test. Leave the valves exposed while the pipeline is being pressurized. Check to see that all valve joints and pressure containing bolting, including bonnet bolts, are tight.
2. Valves can be tested (but not operated) at 1,1 times the rated pressure of the valve.
3. After testing, steps should be taken to relieve any trapped pressure in body of valves.

Storage

1. Valves should be stored in a partially open position.
2. When possible, keep valves out of the weather.
3. In cold climates the inside of the valve must be kept drained of any water to prevent freezing.
4. When stored outside, valve stem should be in a vertical position, and whenever possible, valves should be covered with a water-proof covering.
5. Protect all parts of the valve at all times.
6. Protect rubber seat of resilient wedge valves from ozone and hydrocarbons (solvents, paints and oils, etc.).

Installation

1. Flush the water line completely.
2. Handle valve carefully.
3. Prepare pipe ends in accordance with pipe manufacturers' instructions.
4. Install valve using appropriate instructions for the specified joint (flanged, mechanical joint, slip-on, etc.).
5. Water piping should be properly supported to avoid line stress on valve.
6. In buried applications, make sure that the valve box does not transmit traffic loads or other stress to the valve.
7. Do not use valves to force a pipeline into position.
8. Do not deflect any valve/pipe joint.
9. Protect exterior epoxy coating during backfill.

Associated Products for Ball Valve Range



3700
GEARBOX



3770
ELECTRIC ACTUATOR



2300
CHECK VALVE
WAFFER SWING



2350
CHECK VALVE DUAL



2500
Y-TYPE STRAINER



2250
CHECK VALVE LIFT



2270
CHECK VALVE SWING



5000
RUBBER
EXPANSION JOINT

BALL VALVE

FAF 1220



Features

- FAF1220, PN 16 flanged ball valve is operating by a ball having a hole with the same size as the flow section, through the help of the stem, rotating quarter turn(90 degree) between teflon seats where the ball to be parallel or perpendicular to the flow axis.
- Can be installed bidirectional.
- Through the stainless steel belleville spring reinforced teflon (PTFE) seats, 100% tight sealing is achieved in lowest and highest pressure ratings.
- Can be installed directly to the pump without any need for additional intermediary parts.
- The compatibility of teflon material with various flow types and its resistance to higher temperatures enables it to be used in wide range of applications.
- It is appropriate to be used in fully open or fully closed position.
- In fully open position, since there is no reduction in flow section, the head loss is nearly zero.
- Can be operated with lower torque ratings
- Suitable to install actuator and gearbox

Temperature

- +200 °C

PRODUCTION STANDARTS

DN15 → DN250
PN 16

Design	DIN 3357
Connection	EN 1092-2 / ISO 7005-2
Face to Face	DN15-DN150: EN558 Series 14 / DIN 3202 F4 DN200-DN250: EN558 Series 27 / DIN 3202 F5
Marking	EN 19
Tests	EN 12266-1
Corrosion Protection	Industrial Epoxy

Product Description

FAF1220 series are robust and reliable flanged ball valves for fitting in between PN16 flanges. Body material in cast iron with stainless steel ball and stems are improving the durability of the valve. FAF1220 series are offering a large wide range of applications through to PTFE sealing.

Versions

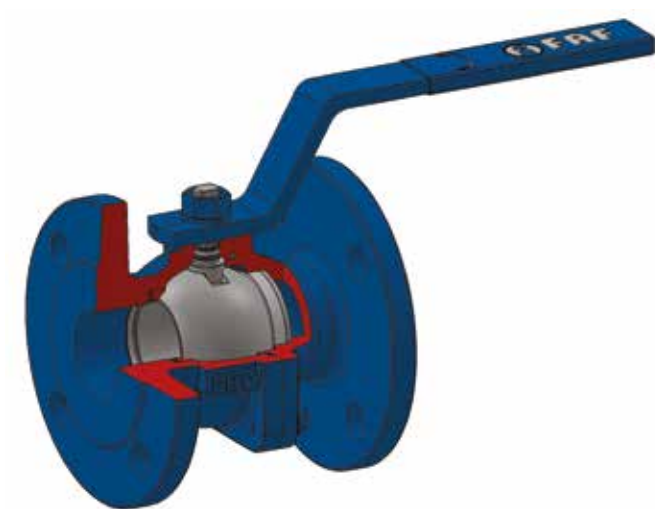
- Various ball, stem and body material alternatives available.
- Standard version with handlever
- Prepared for electrical actuator
- With electrical actuator
- Gearbox
- Custom production for specific orders

Scope of Application

- Hot & cold water
- Superheated water
- Low pressure steam
- Power plants
- Fluids without acidity or alkalinity properties
- Chamber installation
- Installation in plants
- Pipelines
- Tanks
- Industry

BALL VALVE

FAF 1220



MATERIAL SELECTION

Body	EN-GJL-250 Cast Iron / GG25
Ball	1.4016 - Stainless Steel 1.4021 - AISI 420 Stainless Steel 1.4016 - AISI 430 Stainless Steel 1.4301 - AISI 304 Stainless Steel
Stem	1.4021 - AISI 420 Stainless Steel 1.4301 - AISI 304 Stainless Steel (Optional) 1.4401 - AISI 316 Stainless Steel (Optional)
Sealing	PTFE Beleville spring

PRODUCTS MODEL CODES

FAF1220	BALL VALVE - PN16 - FULL BORE
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VALVE TEST PRESSURE (Bar)

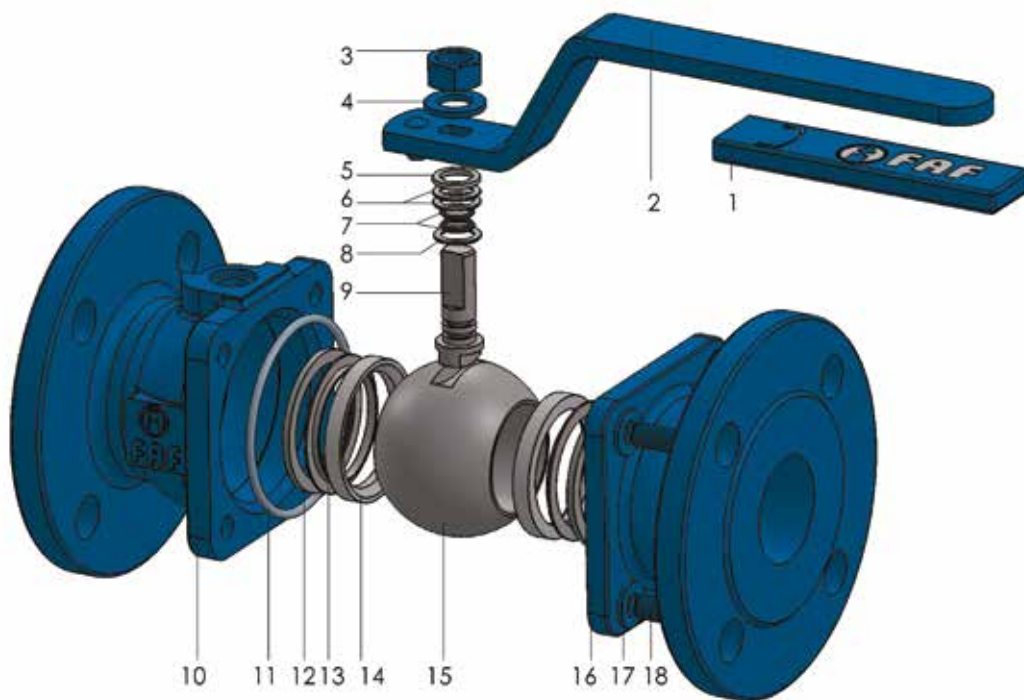
MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

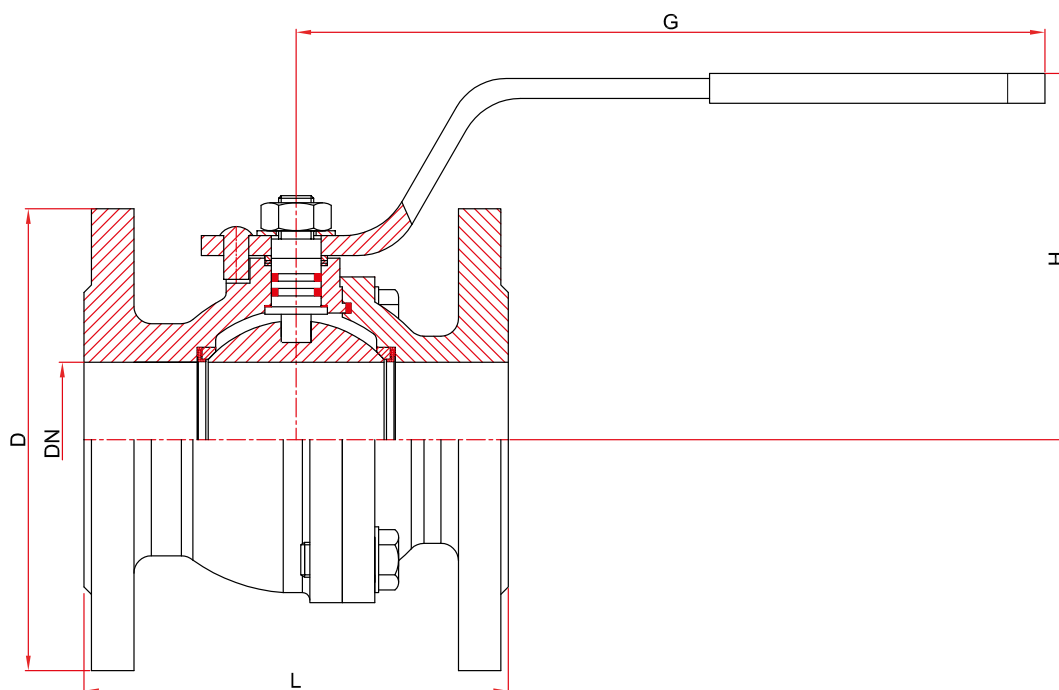
- For proper use and safety precautions please follow the installation and operating instructions.

Material List



NO	ITEM	MATERIALS
1	PLASTIC COVER FOR HANDLEVER	PVC
2	HANDLEVER	St-37 STEEL
3	SAFETY NUT	DIN 985
4	WASHER	DIN 125
5	COMPRESSION WASHER	C45 STEEL
6	PTFE WASHER	PTFE
7	O-RING	VITON
8	PTFE WASHER	PTFE
9	DRIVE SHAFT	STANLESS STEEL 1.4021
10	BODY FLANGE	EN GJL 250 CAST IRON
11	O-RING	SILICONE
12	BALL OUTSIDE SEALING GASKET	SILICONE
13	BELEVILLE SPRING	STANLESS STEEL 1.4016
14	BALL INMER SEALING GASKET	PTFE
15	BALL	STANLESS STEEL 1.4301 / 1.4016
16	FLANGE	EN GJL 250 CAST IRON
17	WASHER	DIN 125
18	BOLT	DIN 933

Technical Details & Drawing, Dimensions



DN	DIMENSION				RATINGS			STUD SIZE	BOLT / NUT QTY	FASTENING MOMENT Nm	WRENCH SIZE (mm)
Ømm	D	L	H	G	KV m³/h	Tork Nm	Weight kg				
15	95	115	95	160	18	12	2,5	M12X50	4X2	85	19
20	105	120	100	180	35	12	2,8	M12X55	4X2	85	19
25	115	125	105	180	65	12	3,4	M12X55	4X2	85	19
32	140	130	110	180	115	12	4,4	M16X65	4X2	205	24
40	150	140	125	260	190	20	6,4	M16X65	4X2	205	24
50	165	150	130	260	310	20	8,2	M16X65	4X2	205	24
65	185	170	145	310	600	30	12,8	M16X65	4X2	205	24
80	200	180	155	310	950	35	15,4	M16X70	8X2	205	24
100	220	190	180	310	1630	45	21,8	M16X75	8X2	205	24
125	250	200	220	500	2700	70	30,4	M16X80	8X2	205	24
150	285	210	240	500	5000	115	37,5	M20X80	8X2	400	30
200	340	400	295	700	8000	175	107	M20X90	12X2	400	30
250	405	450	315	1000	12200	325	157,5	M24X100	12X2	691	36

BALL VALVE

FAF 1220

Ball Valve Maintenance Instructions

Follow the instructions below to perform maintenance and cleaning of Ball Valves.

Dismounting

Make sure that there is no fluid supply on the line where the valve is detached.

- Unscrewing the connection bolts and nuts in opposite pairs, detach the valve from the line.
- Unscrew the plug over the body with the help of the pins from the body.
- Flanged ball valves are made of flange and body. Unscrewing in opposite pairs of nuts take the nuts out and remove the flange.
- Turn the handle to closed position and pull the sphere out of the body by turning it slightly.
- Unscrew the nut on the handle. Remove the washer, handle, and the compression ring in written order.
- Remove the PTFE rings over the stem.
- Remove the stem pressing on it to drop inside the body.
- Remove the PTFE sealing cord from the flange.
- Remove the O-rings over the stem.

Inspection and cleaning

The following periodic preventative maintenance practices are recommended:

- Replace the sphere if excessive scratches and nicks are noted. If lime stains are observed on the sphere, clean the sphere in water with wet sandpaper (400). While maintenance processes, avoid damaging the sphere processed in 0,01mm sensitive CNC machines.
- The package of gasket set, consists of Inner belleville spring and Sphere inner sealing, is on the flange and body side. The inner and outer rings of the gasket package should not have any cracks, tears or cuts observed, or the angled surfaces of the inner ring that meet with the ball should not involve any deep scratches or collapses. The stainless rings should not be deformed. If any of these above exists, demount the gasket package set from the flange and the body and request a new one from our company.
- You may request a new cover gaskets from our company or you may have 1,5 mm Klingerit gasket material cut according to the gasket seat.
- PTFE rings over the stem and O-rings must be replaced with new ones.
- Epoxy coultier priming coat is applied on the inner surfaces of the body and the flanges, however, if there exists oxidations, these regions must be cleaned and repainted with similar coatings.
- Do not paint the stem hole and the flangepacking set compression surface.
- Do not paint the stem hole and flange-packing gasket surface.
- Inspect stud threads and nuts. Replace deformed or rusty parts.
- Clean all materials carefully and proceed to mounting.

Mounting

- Place the PTFE ring of the stem and the Orings. Lightly grease the surfaces of the O-rings. Mount the stem through body cavity without damaging O-rings.
- On the upper side, mount the PTFE rings, compression ring, handle, washer and the nut respectively.
- Mount the packing set on the body as the inner rings will face the sphere.
- Turn the handle to closed position; place the sphere inside the body as the canal on the sphere will be parallel to the stem key.
- Check if the sphere can freely move forward, back, up and down inside the body cavity.
- Mount the packing set (as the inner rings will face the sphere) and the PTFE ring on the flange. Position the mounted body between two flanges, place studs, nuts and washers and tighten the nut in opposite pairs to eliminate the gaps.

Note

It is highly recommended to open and close our valves once in 15 days for a longer service life after installation.

BALL VALVE

FAF 1220

Operating Instructions

Inspection On Delivery

1. Check for possible damage in shipment, conformance to specifications, opening direction, shortages, etc.
2. Carefully unload all valves - do not drop valve - do not lift valve using gearing, bypass or other appendage as a hook.
3. Valve should be opened and then closed to make sure it works properly. Also check opening direction against the order instruction.
4. Any problems should be reported immediately to delivery company and note on bill of lading, signed by the driver on customer's copy.

Inspection Before Installation

1. Check to see the valve end-joints are clean.
2. The valve should not be damaged.
3. Open and close valve - make sure it works properly.
4. Keep valve closed when placing in trench.
5. Inspect casting for damage.
6. Inspect epoxy coating and repair breaks using compatible coating material.

Testing

1. Do not backfill valves before hydrostatic system test. Leave the valves exposed while the pipeline is being pressurized. Check to see that all valve joints and pressure containing bolting, including bonnet bolts, are tight.
2. Valves can be tested (but not operated) at 1,1 times the rated pressure of the valve.
3. After testing, steps should be taken to relieve any trapped pressure in body of valves.

Storage

1. Valves should be stored in a partially open position.
2. When possible, keep valves out of the weather.
3. In cold climates the inside of the valve must be kept drained of any water to prevent freezing.
4. When stored outside, valve stem should be in a vertical position, and whenever possible, valves should be covered with a water-proof covering.
5. Protect all parts of the valve at all times.
6. Protect rubber seat of resilient wedge valves from ozone and hydrocarbons (solvents, paints and oils, etc.).

Installation

1. Flush the water line completely.
2. Handle valve carefully.
3. Prepare pipe ends in accordance with pipe manufacturers' instructions.
4. Install valve using appropriate instructions for the specified joint (flanged, mechanical joint, slip-on, etc.).
5. Water piping should be properly supported to avoid line stress on valve.
6. In buried applications, make sure that the valve box does not transmit traffic loads or other stress to the valve.
7. Do not use valves to force a pipeline into position.
8. Do not deflect any valve/pipe joint.
9. Protect exterior epoxy coating during backfill.

Associated Products for Ball Valve Range



3700
GEARBOX



3770
ELECTRIC ACTUATOR



2300
CHECK VALVE
WAFFER SWING



2350
CHECK VALVE DUAL



2500
Y-TYPE STRAINER



2250
CHECK VALVE LIFT



2270
CHECK VALVE SWING



5000
RUBBER
EXPANSION JOINT

BALL VALVE

FAF 1440



Features

- FAF1440, welding end ball valve is operating by a ball having a hole with the same size as the flow section, through the help of the stem, rotating quarter turn (90 degree) between teflon seats where the ball to be parallel or perpendicular to the flow axis.
- Can be installed bidirectional.
- Ball and stem are stainless steel, sealings are teflon (PTFE).
- Default production is with female/female connection.
- On request, can be manufactured with male/male, male/female and welding end connections.
- It has high-pressure resistance. Pressure ratings can be PN 16/25/40.
- It is appropriate to be used in fully open or fully closed position.
- In fully open position, since there is no reduction in flow section, the head loss is nearly zero.
- Can be operated with lower torque ratings.

Temperature

- +200 °C

PRODUCTION STANDARDS

DN15 → DN25

PN 16-25-40

Design	EN 331 / EN 1983
Connection	Threaded EN ISO 228-1
Face to Face	DIN3202 / M3
Marking	EN 19
Tests	EN 12266-1 / EN 331
Corrosion Protection	Industrial Epoxy

Product Description

FAF1440 series are robust and reliable ball valves for fitting in between PN40 networks. Steel body material and stainless steel ball and stems are improving the durability of the valve. The valves are offering a large wide range of applications in thanks to PTFE sealing.

Versions

- Various ball, stem and body material alternatives available.
- Standard version with handlever
- Custom production for specific orders

Scope of Application

- LPG
- Natural gas
- Superheated water
- Steam
- Power plants
- Industry
- Fluids without acidity or alkalinity properties
- Pressurized air

BALL VALVE

FAF 1440

PRODUCTS MODEL CODES

FAF1440	BALL VALVE - PN40 - SCREWD END
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VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6
25	37,5	27,5
40	60	44

100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

- For proper use and safety precautions please follow the installation and operating instructions.

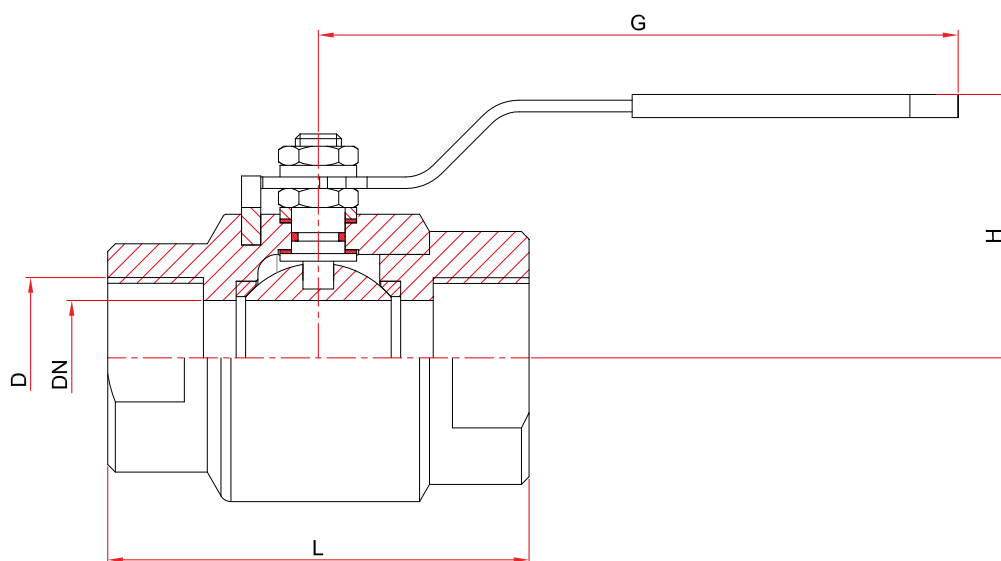
MATERIAL SELECTION

Body
 1.0037 - ST37 Steel
 ASTM A-105 Forged Steel
 1.4301 - AISI 304 Stainless Steel
 1.4401 - AISI 316 Stainless Steel

Ball
 1.4301 - AISI 304 Stainless Steel
 1.4021 - AISI 420 Stainless Steel
 1.4401 - AISI 316 Stainless Steel

Stem
 1.4021 - AISI 420 Stainless Steel
 1.4301 - AISI 304 Stainless Steel
 1.4401 - AISI 316 Stainless Steel

Sealing TEFLON (PTFE)



Technical Details & Drawing, Dimensions

DN	DIMENSION				RATINGS			
Ømm	D	L	H	G	KV / h	m ³	Tork Nm	weight (kg)
15	R 1/2	75	60	160	18		7	0,7
20	R 3/4	80	70	180	35		7	1,4
25	R 1	90	75	180	65		7	1,7

FORGED BALL VALVE

FAF1840



Features

- Designed and manufactured according to ANSI standards.
- Can be installed bi-directional
- Manufactured from forged steel material and has a high pressure resistance.
- The well accordance of teflon material with various flow types and its resistance to higher temperatures enables it to be used in wide range of applications.
- It has stainless steel ball, body material can be manufactured in cast steel or forged steel.
- It is appropriate to be used in fully open or fully closed position.
- No maintenance ever required.
- Handle clearly shows the ball position. Handle clearly shows the ball position.
- Low coefficient of friction.
- Excellent sliding and running properties
- Hardens the complete surface of ball and seats

Temperature

- -30°C, +200°C

PRODUCTION STANDARTS

DN15 → DN100
CLASS 800/1500

Design	BS 5351 / ASME B16.34
Connection	ASME B1.20.1 / ASME B16.11 / ASME B16.25
Pressure Test	API 598
Marking	MSS SP-25
Corrosion Protection	Industrial Epoxy

Product Description

FAF1840 Forged Ball Valve is operating by a ball having a hole with the same size as the flow section, through the help of the stem, rotating quarter turn (90 degree) between teflon seats where the ball to be parallel or perpendicular to the flow axis.

Versions

- Various ball, stem and body material alternatives available
- Standard version with handlever
- Stem extension
- Oval lockable handle
- Gearbox
- Custom production for specific orders

Scope of Application

- Hot & cold water
- Steam
- Chemicals, refining and petrochemicals
- Lubricants
- Natural Gas
- Oil & gas
- HVAC
- Water & wastewater

FORGED BALL VALVE

FAF1840

PRODUCTS MODEL CODES

FAF1900	BALL VALVE - TRUNNION
FAF1800	BALL VALVE - FLOATING
FAF1840	BALL VALVE - FORGED

VALVE TEST PRESSURE (Bar)

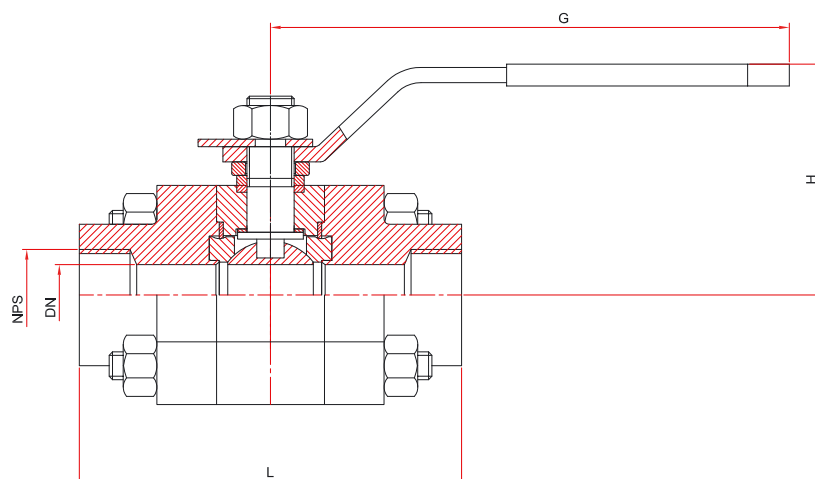
MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
CLASS 900 (PN 150)	225	165
CLASS 1500 (PN 260)	390	286

100% of the valves are subjected to hydrostatic tests at FAF facilities.

MATERIAL SELECTION

Body	ASTM A-1216 WCB Cast Steel ASTM A-105 Forged Steel
Ball	ASTM A-105 Forged Steel + ENP 1.4401 - AISI 316 Stainless Steel 1.4301 - AISI 420 Stainless Steel
Stem	ASTM A-105 Forged Steel + ENP 1.4401 - AISI 316 Stainless Steel 1.4301 - AISI 420 Stainless Steel
Sealing	PTFE NYLON

Technical Details & Drawing, Dimensions



CLASS 800

DN	NPS	DIMENSION			RATINGS	
Ømm	INC	L	H	G	KV m³/h	Weight Kg
15	1/2	92	51	108	20	2,3
20	3/4	111	70	146	38	3,4
25	1	127	81	178	70	5,4
32	1 1/4	140	85	178	120	6,4
40	1 1/2	152	105	200	190	11
50	2	178	125	280	320	13

CLASS 1500

DN	NPS	DIMENSION			RATINGS	
Ømm	INC	L	H	G	KV m³/h	Weight Kg
15	1/2	92	51	108	20	2,5
20	3/4	111	70	146	38	3,7
25	1	127	81	178	70	5,8
32	1 1/4	140	85	178	120	6,8
40	1 1/2	152	105	200	190	11,5
50	2	178	125	280	320	13,7

GLOBE VALVE BELLOW SEAL

FAF2100



Features

- Has cast iron body; stem and sealing seat are made of stainless steel.
- For using in high temperatures, can be coated with high temperature resistant coating.
- No maintenance needed, can be operated with lower torque ratings.
- Zero stem leakage eliminates media loss and satisfies environmental regulations.

Temperature

- +200 °C

PRODUCTS MODEL CODES

FAF2100	GLOBE VALVE
FAF2130	GLOBE VALVE - BELLOW SEAL

PRODUCTION STANDARDS

DN15 → DN250
PN 16

Design	EN 13789
Connection	EN 1092-2 / ISO 7005-2 Flanged
Face to Face	EN 558 Series 1 / DIN 3202 F1
Marking	EN 19
Tests	EN 12266-1
Corrosion Protection	Industrial Epoxy

Product Description

FAF2100 Globe Valve, maintains 100% tight sealing through the graphite gasket on the stainless steel disc moving perpendicular to the flow axis and seating on the machined metal seat inside the body.

Versions

- Standard version with handwheel

Scope of Application

- Steam
- Superheated water
- Hot & cold water
- Power & heat engineering
- Industrial technologies
- Fluids without acidity or alkalinity properties

Note

- For proper use and safety precautions please follow the installation and operating instructions.

VALVE TEST PRESSURE (Bar)

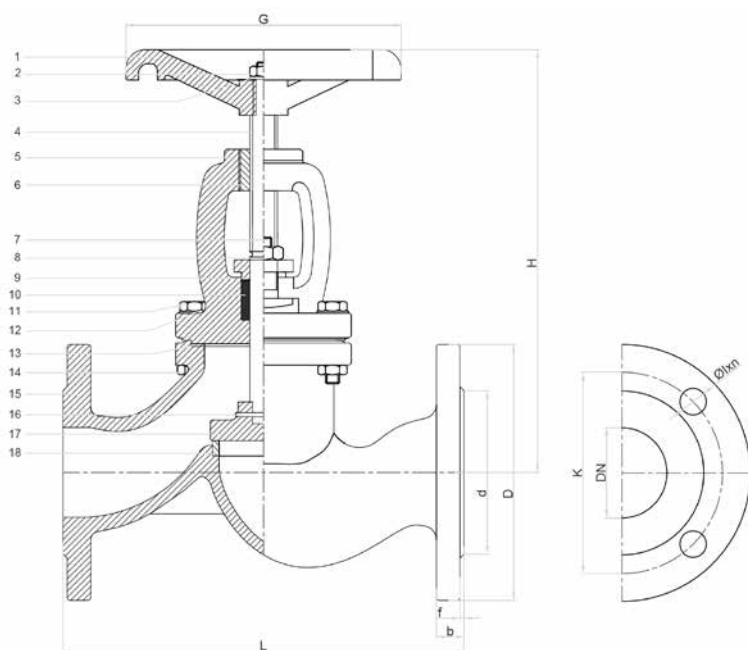
MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

GLOBE VALVE BELLOW SEAL

FAF2100

Technical Details & Drawing, Dimensions



NO	ITEM	MATERIAL
1	HAND WHEEL	EN GJL 250 CAST IRON
2	NUT	DIN 934
3	WASHER	DIN 125
4	SHAFT	1.4021 STAINLESS STEEL
5	COVER	EN GJL 250 CAST IRON
6	NUT	CuZn40Pb2 BRASS
7	BOLTS	CK 45 STEEL
8	NUT	DIN 934
9	PRESSURE FLANGE	EN GJL 250 CAST IRON
10	SEALING GASKET	GRAPHITE RING
11	BOLT	DIN 933
12	WASHER	DIN 125
13	COVER GASKET	GRAPHITE
14	NUT	DIN 934
15	BODY	EN GJL 250 CAST IRON
16	PIN	1.4301 STAINLESS STEEL
17	DISC	1.4301 STAINLESS STEEL
18	SEAT	1.4301 STAINLESS STEEL

DN (mm)	D	K	d	Øl x n	f	b	L	H	G	KV m ³ /h	Torque Nm	Weight (kg)
15	95	65	46	14 x 4	2	14	130	165	95	5	15	3,3
20	105	75	56	14 x 4	2	16	150	170	100	8	20	4,0
25	115	85	56	14 x 4	3	16	160	180	120	11	20	5,0
32	140	100	76	19 x 4	3	18	180	215	140	18	30	8,5
40	150	110	84	19 x 4	3	18	200	225	140	28	30	9,6
50	165	125	99	19 x 4	3	20	230	235	200	47	40	13,8
65	185	145	118	19 x 4	3	20	290	265	200	72	40	20,1
80	200	160	132	19 x 8	3	22	310	300	240	126	100	27,6
100	220	180	156	19 x 8	3	24	350	340	280	170	160	39,0
125	250	210	184	19 x 8	3	26	400	390	360	267	200	58,1
150	285	240	211	23x8	3	26	480	430	360	380	250	75,5
200	340	395	266	23 x 12	4	30	600	490	400	683	350	122,9
250	405	355	319	28 x 12	4	32	730	600	400	1057	500	225,0

GLOBE VALVE BELLOW SEAL

FAF2130



Features

- Long cycle life bellows designed and qualification tested for high pressure/temperature applications.
- Reduced gland leakage. The use of bellows reduces leakage from the gland components.
- Zero stem leakage eliminates media loss and satisfies environmental regulations.
- Zero maintenance results in lower operating costs.
- Easy maintenance. The valves are effective for reducing maintenance costs as the gland packing does not need to be regularly retorqued.
- Maintains liquid quality. The valve stem and gland components are sealed with bellows to prevent contact with liquids in pipes.

Temperature

- +300 °C

PRODUCTION STANDARDS

DN15 → DN200
PN 16

Design	EN 13789
Connection	EN 1092-2 / ISO 7005-2 Flanged
Face to Face	EN558 Series 1 / DIN 3202F1
Marking	EN 19
Tests	EN 12266-1
Corrosion Protection	Industrial Epoxy

Product Description

FAF2130 Globe Valve is sealed to the stem and the bonnet with precision welds. The welds need to be performed in close proximity to other valve parts, which can cause damage to the bellows, stem, backseat and packing if not done carefully. FAF does not recommend the replacement of a bellows in the field.

Versions

- Standard version with handwheel

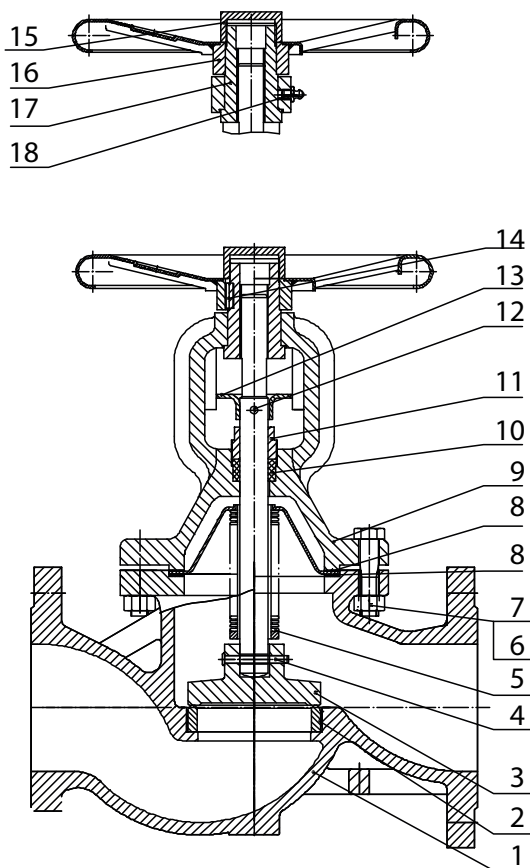
Scope of Application

- Steam
- Superheated Water
- Hot Water
- Cold Water
- Pressurized air systems
- Ammonia and oil transfer
- Fluids without acidity or alkalinity properties

GLOBE VALVE BELLOW SEAL

FAF2130

Material List



NO	ITEM	MATERIALS
1	Body	GGG40 Ductile Iron
2	Body Sealing Ring	1.4021
3	Disc	DN15-100: SS420; DN125-200: A105
4	Pin (Type A)	1.4021
5	Bellow Parts Diagram	SS304 Bellow
6	Hexagon Head Bolts	Cast Steel
7	1 Type Hexagonal Nut	Cast Steel
8	Gasket	Cast Steel + Flexible Graphite
9	Bonnet	GGG40 Ductile Iron
10	Packing	Flexible Graphite
11	Bolts	8.8 Galvanized
12	Elastic Cone Pin - Straight Flute - Heavy Type	Cast Steel
13	Location - Limited Plate	8.8 Galvanized
14	Ordinary Flat Key Type A	Cast Steel
15	Nut	8.8 Galvanized
16	Handwheel	Steel
17	York Nut	8.8 Galvanized

PRODUCTS MODEL CODES

FAF2130	GLOBE VALVE - BELLOW SEAL
FAF2100	GLOBE VALVE

VALVE TEST PRESSURE (Bar)

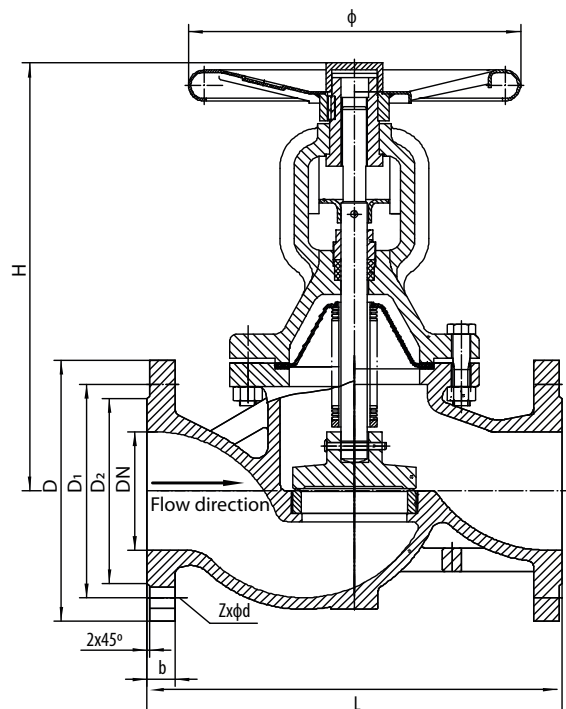
MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

- For proper use and safety precautions please follow the installation and operating instructions.

Technical Details & Drawing, Dimensions



DN (mm)	L	D	D1	D2	b	Z x Ød	H	ϕ
15	130	195	165	146	14	4X14	194	120
20	150	1105	175	156	16	4X14	194	120
25	160	1115	185	165	16	4X14	205	140
32	180	1140	1100	176	18	4X19	215	140
40	200	1150	1110	184	18	4X19	224	140
50	230	1165	1125	199	20	4X19	230	160
65	290	1185	1145	1118	20	4X19	282	200
80	310	1200	1160	1132	22	8X19	335	220
100	350	1220	1180	1156	24	8X19	361	280
125	400	1250	1210	1184	26	8X19	445	280
150	480	1285	1240	1211	26	8X23	499	340
200	600	1340	1295	1266	30	12X23	653	400

GLOBE VALVE BELLOW SEAL

FAF2130

Caution During Use

Please check the following prohibited actions and cautions when using bellows valves. Using bellows valves with specifications or conditions that deviate from this information may lead to serious damage including bellows breakage.

Please check with FAF Valve if you have any questions.

Prohibited Actions

- Do not use the valve under conditions which exceed the range of use.
- Avoid freezing liquids inside the piping.
- Avoid subjecting the valve to impact pressures such as a water hammer.
- Do not use in pipes with strong vibrations.
- When transporting a large-size valve, lift it with a rope tied to the valve body or the yoke. Never tie the rope to the handle, and make sure the valve does not fall over or suffer a strong impact. Otherwise the valve stem may bend, leaving the valve unable to open and close.
- When operating the handle, do not apply excessive torque by the supplementary handle or elsewhere, otherwise the damage such as bending stem may happen.
- Please consult with FAF Valve when using or corrosive liquids.

Cautions

- When using highly viscous liquids or liquids which harden at low temperatures, prevent the liquid from sticking to the bellows by keeping it warm or taking other measures.
- To prevent foreign substances from entering the valve, do not remove the seal on the ange face until the valve has been installed.
- Store the valve indoors in a place with minimal humidity and dust. Do not store the valve in open air.
- Do not disassemble or replace parts on the valve (disassembly and assembly work on a bellows valve should only be performed by an experienced person who has received training.)
- When using the valve, match the ow direction with the arrows on the valve body.
- When the valve is fully closed, abruptly closing the handle with force may cause a foreign substance to get caught on the seat surface or cause seat leakage. In such cases, after fully closing the valve lightly, open the valve slightly and blow off the foreign substance around the seat before closing the handle again.
- If the valve is used when an extremely small opening, high-velocity liquids may strike the seat or valve body and cause erosion (mechanical corrosion).
- If the valve is used with high frequency, slippage of the valve stem trapezoidal thread will occur. Please lubricateregularly.

LIFT TYPE CHECK VALVE

FAF2250



Features

- Stainless steel disc, which is positioned vertical to flow direction seats on sealing surface that processed on the body via expander, force and provides %100 tight sealing.
- The valve is opened via fluid force when it is at closed position and it is closed via expander force when system pressure decreases.
- Valve can be used in horizontal and vertical position due to the sealing is achieved by the spring.
- The valve has cast iron body, stainless steel disc and graphite seal.
- The body coated with wet epoxy paint as standard. It can be coated with fusion-bonded epoxy if required.
- All external surfaces are primed and painted for corrosion resistance.
- Designed with focus on easy access to maintenance. By unscrewing a few bolts the bonnet assembly including hinge and disc can be removed from the body, and maintenance can be performed.
- Designed with focus on easy access to maintenance. By unscrewing a few bolts the bonnet assembly including hinge and disc can be removed from the body, and maintenance can be performed.
- Zero stem leakage eliminates media loss and satisfies environmental regulations.
- Effective for energy savings. Energy loss due to leakage is controlled, helping to prevent global warming and protecting the environment.

Temperature

- +200 °C

PRODUCTION STANDARDS

DN15 → DN250
PN 16

Design	EN 12334 / EN 16767
Connection	EN 1092-2 / ISO 7005-2 Flanged
Face to Face	EN 558 Series 1 / DIN 3202 F1
Marking	EN19
Tests	EN 12266-1
Corrosion Protection	Industrial Epoxy

Product Description

FAF2250 Lift type check valve let to fluids in the facility required downstream and ceases the flow in case of reverse flow.

Versions

- Standard version with cast iron wedge
- Custom production for specific orders

Scope of Application

- Steam
- Superheated water
- Hot & cold water
- Industrial technologies
- Fluids without acidity or alkalinity properties

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

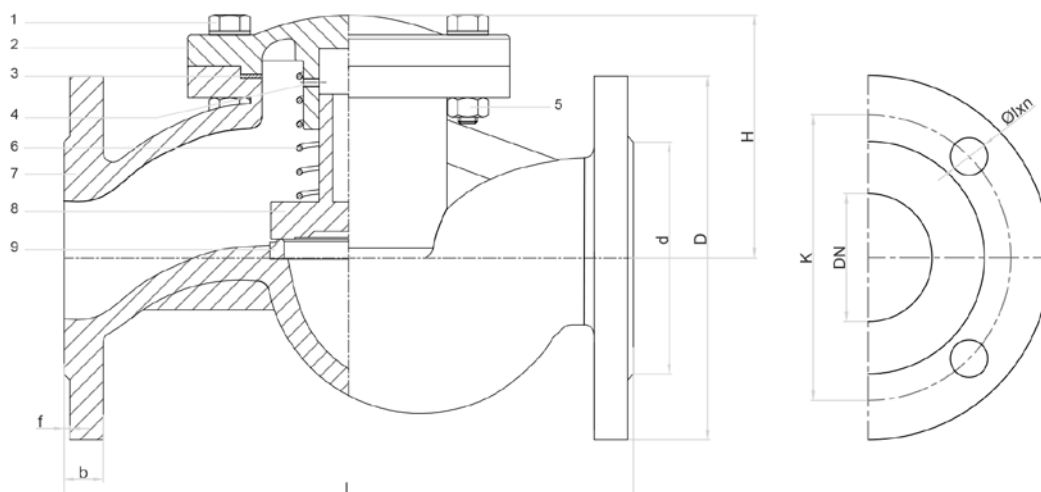
Note

- For proper use and safety precautions please follow the installation and operating instructions.

LIFT TYPE CHECK VALVE

FAF2250

Technical Details & Drawing, Dimensions



DN (mm)	D	K	d	Øl x n	f	b	L	H	KV m ³ /h	Weight (kg)
15	95	65	46	14x4	2	14	130	50	3	2,4
20	105	75	56	14x4	2	16	150	50	5,5	3,0
25	115	85	65	14x4	3	16	160	60	8	3,9
32	140	100	76	19x4	3	18	180	75	13	6,5
40	150	110	84	19x4	3	18	200	80	20	7,6
50	165	125	99	19x4	3	20	230	80	33	11,0
65	185	145	118	19x4	3	20	290	110	50	17,4
80	200	160	132	19x8	3	22	310	120	88	23,9
100	220	180	156	19x8	3	24	350	135	119	31,2
125	250	210	184	19x8	3	26	400	165	187	49,0
150	285	240	211	23x8	3	26	480	190	266	63,3
200	340	295	266	23x12	4	30	600	225	478	104,8
250	405	355	319	28x12	4	32	730	295	740	201,1

Material List

NO	ITEM	MATERIALS
1	BOLT	DIN 933
2	COVER	EN-GJL-250 CAST IRON
3	SEALING	GRAPHITE DIN 933
4	NUT	DIN 934
5	SPRING	1.4301 - AISI 304 STAINLESS STEEL
6	BODY	EN-GJL-250 CAST IRON
7	DISC	1.4301 - AISI 304 STAINLESS STEEL
8	SEAT	1.4301 - AISI 304 STAINLESS STEEL

SWING CHECK VALVE

FAF 2270



Features

- With the start of movement at defined flow direction on the system, the disc leaves the flow section by turning around its axis and allows the flow pass.
- The disc fixed inside the body in located on the flow axis.
- Sealing is achieved by metal to metal seating. Rubber coated disc is available. (Optional)
- All external surfaces are primed and painted for corrosion resistance.
- Can be installed in either vertical (upward flow only) or horizontal (cover upright) applications.
- Designed with focus on easy access to maintenance. By unscrewing a few bolts the bonnet assembly including hinge and disc can be removed from the body, and maintenance can be performed.
- Zero stem leakage eliminates media loss and satisfies environmental regulations.
- Effective for energy savings.
- Stock piled for quick delivery.

Temperature

- +130 °C (EPDM)

PRODUCTION STANDARDS

DN40 → DN300
PN 10-16

Design	EN 12334 / EN16767
Connection	EN 1092-2 / ISO 7005-2 - Flanged
Face to Face	EN 558 Series 48 / DIN 3202 F6
Marking	EN 19
Tests	EN 12266-1
Corrosion Protection	Electrostatic Powder Epoxy / FBE

Product Description

FAF2270 Swing Check Valve is ideal for all basic commercial/industrial general backflow prevention applications. Durable ductile iron construction resists pipeline stresses and distortion.

Versions

- Standard version with ductile iron body and disc
- Custom production for specific orders

Scope of Application

- Chamber installation
- Pipelines
- Water treatment plants
- Pumping stations
- Tanks
- Seawater applications
- Power plants
- Industry

SWING CHECK VALVE

FAF 2270

MATERIAL SELECTION

Body EN-GJS-500 Ductile Iron / GGG50

Bonnet EN-GJS-500 Ductile Iron / GGG50

Stem 1.4021 - AISI 420 Stainless Steel
1.4301 - AISI 304 Stainless Steel (Optional)
1.4401 - AISI 316 Stainless Steel (Optional)

Sealing EPDM

Coating Electrostatic Powder Epoxy / FBE

PRODUCTS MODEL CODES

FAF2270	SWING CHECK VALVE - PN16
FAF2271	SWING CHECK VALVE - PN10 (Optional)

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

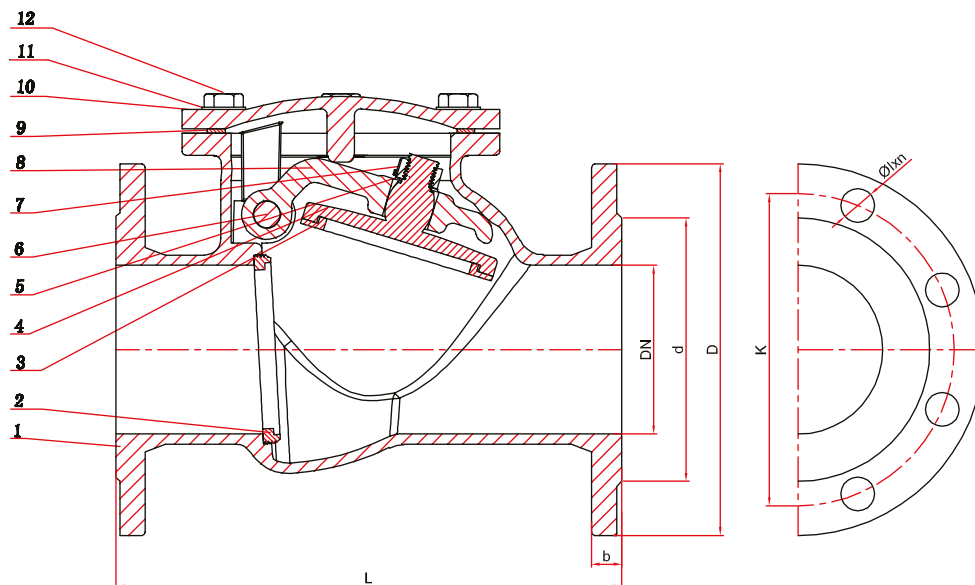
Note

- For proper use and safety precautions please follow the installation and operating instructions.

SWING CHECK VALVE

FAF 2270

Technical Details & Drawing, Dimensions



DN	D	K	d	Øl x n	f	b	L	H	Weight (kg)
50	165	125	99	19x4	3	19	200	116	10
65	185	145	118	19x4	3	19	240	116	12,5
80	200	160	132	19x8	3	19	260	145	15,5
100	220	180	156	19x8	3	19	300	145	19
125	250	210	184	19x8	3	19	350	175	29
150	285	240	211	23x8	3	19	400	204	43
200	340	295	266	23x12	4	20	500	248	64
250	400	355	319	23x12	4	22	600	292	96
300	455	410	370	23x12	4	24,5	700	325	118

Material List

NO	ITEM	MATERIALS
1	BODY	EN GJS 500 Ductile Iron
2	SEAT	Brass CuZn39Pb3
3	SEAL RING	Brass CuZn39Pb3
4	DISC	EN GJS 500 Ductile Iron
5	GALVANIZED GASKET	Stainless Steel 1.4021
6	PIN	Stainless Steel 1.4021
7	NUT	St-37Steel
8	POCKER ARM	EN GJS 500 Ductile Iron
9	SEALING	NBR
10	COVER	EN GJS 500 Ductile Iron
11	GALVANIZED GASKET	St-37Steel
12	BOLT	St-37Steel

TILTING CHECK VALVE

FAF 2280



Features

- Ensures 100% sealing with the "T" section ring fixed to the outer diameter of the disc fully facing the seat surface inside the body perimeter made of stainless steel welding.
- The sealing that can be made of EPDM, (NBR and VITON) optional materials can be dismantled and replaced easily on field conditions.
- Inner and outer surfaces of the valve is coated with (250) microns thickness of fusion bonded epoxy. Higher thicknesses are available upon request.
- Low moments are obtained by decreasing the friction through self lubricating bushings.
- Can bear high stretching stresses on the pipeline through the ductile iron body and disc.
- High impact resistance.
- Pressure loss is at minimum level by double shaft design.
- Countervalue weight allows installation of both horizontal and vertical pipes on the right and left sides of the mill, counterweight, and lever on both sides of the check valve.
- The disc opens depending on the flow rate and moves freely depending on the flow.
- The position adjusts to the working conditions through to the adjustable weight.
- Lifting lugs and feet ease the balance during transport and installation.
- Sealing gaskets made of EPDM, NBR or VITON supplied according to operating conditions and demand can be disassembled and replaced easily in field conditions.
- With the o-rings on the bearing bushings, disc pin holes are protected against corrosion (Dry shaft).
- Retaining ring is assembled to the disc with imbus bolts, the disc is protected against corrosion by placing o-rings under the bolts.

Temperature

- +130 °C (EPDM)
- +100 °C (NBR)
- +180 °C (VITON)

PRODUCTION STANDARDS

DN100 → DN1400
PN 10-16-25

Design	EN 12334 / EN 16767
Connection	EN 1092-2 / ISO 7005-2 - Flanged
End Connection	EN 558 Series 14 / DIN 3202 F4
Marking	EN 19
Tests	EN 12266-1
Corrosion Protection	Electrostatic Powder Epoxy WRAS Approved (Optional)

Product Description

FAF2280 Series Tilting Check Valve consists a circular disc with conical rim, hinged about a fixed pivot above its center-line and offset from the plane of the seat, sealing against a body seat clamped between the two sections of the valve body.

Versions

- Standard version with various pressure standards
- Custom production for specific orders.
- Sealing gaskets can be made of EPDM, NBR or VITON (Optional)

General Information

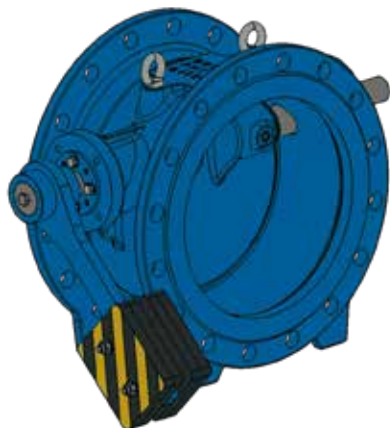
- Valve is designed to be leakproof and with anti blow out shaft system when driving component are removed.

Scope of Application

- Pipelines
- Water Treatment Plants
- Pumping stations
- Tanks
- Seawater applications
- Power plants (cooling water pipelines)
- Industry

TILTING CHECK VALVE

FAF 2280



MATERIAL SELECTION

Body EN-GJS-500 Ductile Iron / GGG50

Disc EN-GJS-500 Ductile Iron / GGG50

Shaft
 1.4021 - AISI 420 Stainless Steel
 1.4301 - AISI 304 Stainless Steel (Optional)
 1.4401 - AISI 316 Stainless Steel (Optional)
 1.4462 - Duplex Stainless Steel (Optional)

Sealing
 EPDM
 NBR (Optional)
 VITON (Optional)

PRODUCTS MODEL CODES

FAF2280	TILTING CHECK VALVE PN16
FAF2281	TILTING CHECK VALVE PN10
FAF2282	TILTING CHECK VALVE PN25

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6
25	37,5	27,5

100% of the valves are subjected to hydrostatic tests at FAF facilities.

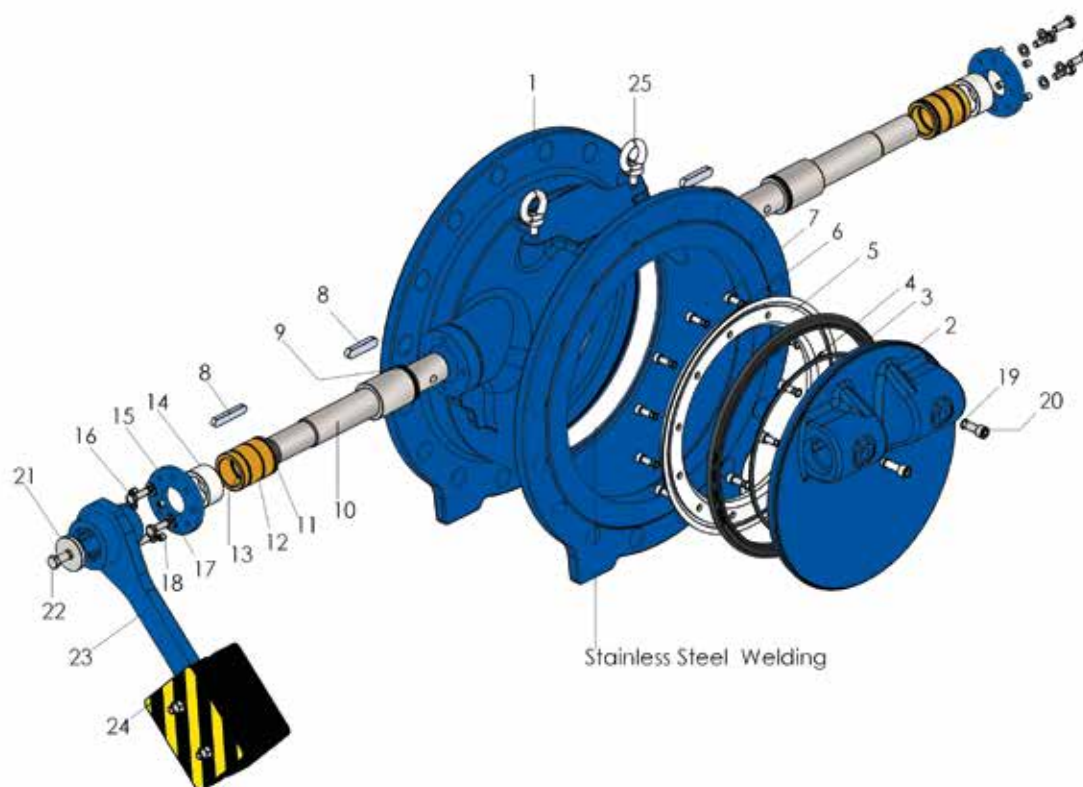
Note

- For proper use and safety precautions please follow the installation and operating instructions.

TILTING CHECK VALVE

FAF 2280

Material List



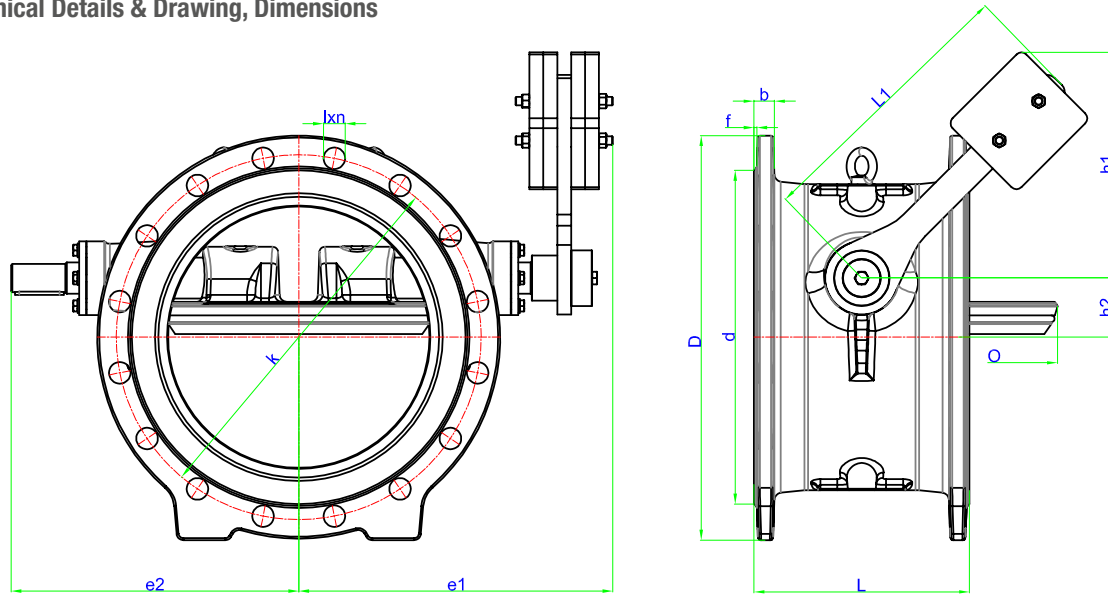
NO	ITEM	MATERIALS
1	BODY	EN GJS 500
2	DISC	EN GJS 500
3	SEALING RING	EPDM
4	O-RING	NBR / EPDM
5	RETAINING RING	STEEL 1.0254 OR STAINLESS STEEL 1.4301 / 1.4401
6	O RING	NBR / EPDM
7	IMBUS BOLT	STAINLESS STEEL A2
8	KEY	STEEL
9	O-RING	NBR / EPDM
10	SHAFT	STAINLESS STEEL 1.4021
11	O-RING	NBR / EPDM
12	BUSHING	BRONZE

NO	ITEM	MATERIALS
13	O RING	NBR / EPDM
14	SHAFT BEARING	DELTRIN
15	COVER	STEEL 1.0254
16	HEXAGON BOLTS	STAINLESS STEEL 1.4021
17	WASHER	STAINLESS STEEL 1.4021
18	SETSCREW	STAINLESS STEEL A2
19	O RING	NBR / EPDM
20	IMBUS BOLT	STAINLESS STEEL A2
21	WASHER	STAINLESS STEEL 1.4021
22	HEXAGON BOLTS	STAINLESS STEEL 1.4021
23	LEVER	STEEL 1.0254
24	WEIGHT	STEEL 1.0254
25	LIFTING LUGS	STEEL

TILTING CHECK VALVE

FAF 2280

Technical Details & Drawing, Dimensions



DIMENSIONS - PN10

DN (mm)	D	K	d	Ølxn	f	b	L	O	L1	e1	e2	h1	h2	Weight (kg)
100	220	180	156	19x8	3	19	190	101	202	203	171	170	22	19
150	285	240	211	23x8	3	19	210	148	202	230	196	187	36	30
200	340	295	266	23x8	4	20	230	200	250	280	272	215	40	44
250	400	350	319	23x12	4	22	250	248	250	335	310	215	50	63
300	455	400	370	23x12	4	24,5	270	282	300	360	341	263	60	85
350	505	460	429	23x16	4	24,5	290	39	400	412	374	328	75	139
400	565	515	480	28x16	4	24,5	310	385	400	470	430	335	85	159
450	615	565	530	28x20	4	25,5	330	432	500	515	480	410	95	218
500	670	620	582	28x20	4	26,5	350	481	500	545	510	430	105	253
600	780	725	682	31x20	5	30	390	576	600	570	555	468	125	345
700	895	840	794	31x24	5	32,5	430	675	700	660	651	580	155	559
800	1015	950	901	34x24	5	35	470	780	800	755	725	645	175	725
900	1115	1050	1001	34x28	5	37,5	510	872	900	940	915	775	200	896
1000	1230	1160	1112	37x28	5	40	550	970	1000	850	830	805	210	1140

DIMENSIONS - PN16

DN (mm)	D	K	d	Ølxn	f	b	L	O	L1	c1	c2	h1	h2	Weight (kg)
100	220	180	156	19x8	3	19	190	101	202	203	171	170	22	19
150	285	240	211	23x8	3	19	210	148	202	230	196	187	36	30
200	340	295	266	23x12	4	20	230	200	250	280	272	215	40	44
250	400	355	319	28x12	4	22	250	248	250	335	310	215	50	63
300	455	410	370	28x12	4	24,5	270	282	300	360	341	263	60	90
350	520	470	429	28x16	4	26,5	290	39	400	412	374	328	75	146
400	580	525	480	31x16	4	28	310	385	400	470	430	335	85	174
450	640	585	548	31x20	4	30	330	432	500	515	480	410	95	230
500	715	650	609	34x20	4	31,5	350	481	500	545	510	430	105	295
600	840	770	720	37x20	5	36	390	576	600	570	555	468	125	415
700	910	840	794	37x24	5	39,5	430	675	700	660	651	580	155	570
800	1025	950	901	41x24	5	43	470	780	800	755	725	645	175	775
900	1125	1050	1001	41x28	5	46,5	510	872	900	940	915	775	200	940
1000	1255	1170	1112	44x28	5	50	550	970	1000	850	830	805	210	1200

TILTING CHECK VALVE

FAF 2280

General

- Swing check valve are designed to close in emergency conditions by means of preventing the backflow of the fluid on the pipeline without the need of manual operation or additional source of energy. These check valves are used for the purpose of isolating the pipeline in emergency conditions.
- Swing check valves open with the flow and close with the stop of flow by the help of counter weight.
- The closing characteristics of the Swing check valve can be arranged by changing the position of the weight attached on the counter lever.

Transportation and Storage

- Check valves should be protected during transportation and storage with a proper cover.
- Check valves should be stored in a such a way to ensure proper usage after prolonged storage periods. This includes below point.
- Precautions needs to be taken for dirt, freezing or corrosion.
- Temperature range should be kept between + 5 ° C to +50 ° C.
- Sealing parts (resilient parts) should not be directly exposed to sunlight and/or UV lights.
- Should be stored in a dry and ventilated place. Shouldnot be in direct contact with sand and other wastes.

Instructions for Maintenance, Inspection and Installation

In order to maintain safe and trouble-free usage of check valves, this manual should be reviewed carefully and the information given should be applied continuously.

Non-compliance with safety instructions would cause below results.

- Personal injuries
- Threats for both environment and the valve
- Malfunction of basic functions of valve / facility.
- Failure of foreseen maintenance and repair applications
- Threats to human due to electrical, mechanical and chemical effects.
- Damage of hazardous leakage to the environment

No revision on change on the valve can be made for the products supplied by "FAF VALVE". In case of non-compliance of the information supplied in this guide or for any revision made on the valve, "FAF VALVE" cannot be kept responsible for any damage or loss that may occur.

The installation, operation and maintenance processes of check valves should be done with authorized personnel. Even all "FAF VALVE" products are manufactured according to international directives and standards, with non-appropriate or out of scope usage, valves are equipment's that carry a potential danger.

Any personnel responsible from the storage, installation, operation, maintenance and disassembly of the check valve should carefully read this document and well understand. Before starting any work on valves or pipeline, all international and local safety regulations should be reviewed and understood, all necessary precautions should be taken.

If any repair will be done, there should not be pressure on the pipeline, if needed all fluid needs to be discharged and warning signboards needs to be placed around working area. If the valve to be repaired is a discharge valve, precautions needs to be taken to avoid the area to be flooded with water. Using original spare parts will maintain operational safety of the products. Manufacturer cannot be kept liable for any damage that may occur due to usage of non-original spare parts.

If a valve needs to be disassembled from the line, pipeline should be discharged. Since, after disassembly of the valve, the remaining fluid on the pipeline will flow freely, necessary precautions needs to be taken.

Sudden movements should be avoided during lifting, moving and unloading the valve. Sudden movements may damage the valve and/or the lifting equipment. Lifting the valve should only be done through the lifting lugs located on the valve body.

During lifting process, valve may move to one side involuntarily. The lifting operation done by crane should be done by experienced personnel and during lifting operation noone should enter working area except the crane operator.

TILTING CHECK VALVE

FAF 2280

Installation Manual & Commissioning Instructions

- Make sure that the installer is qualified and well informed.
- Use appropriate lifting devices by checking the weight capacity and dimensions.
- The valves and pipes operated with high ($> 60^{\circ}\text{C}$) or low ($< 0^{\circ}\text{C}$) temperatures should be isolated or a warning sign stating "Donot touch" should be placed.
- At potable water pipelines, with greasing, cleaning and coating operations make sure that approved materials are used.
- On the pipeline, make sure the counter flanges installed are according to international standard norms as per EN 1092-1 / ISO 7005-1
- Prior to installation check the flange gasket surfaces, clean if needed. Make ready the sealing gaskets by selecting according to temperature, pressure and fluid type.
- Make ready the dimensions and quantities of connection elements (bolts, nuts, washers).
- Electrical cables should be installed by qualified personnel.
- Electrical equipment regulations (e.g. national / international standards) applicable to hazardous locations must be studied. Should be installed in dry places. The voltage and frequency must match those specified on the identification plate.
- Before installing the valve, remove any such residue from the line by air or steam, as corrosion, welding burrs, dirt and residue on your pipeline may cause deformation and leakage on the valve.
- The pipe alignment to which the valve is connected must be the same axis, the opposite flanges perpendicular to the pipe axis, and the flange bolt holes must be on the same axis. Otherwise, there may be leakage in the valve due to axial misalignment causing tension on the valve!
- If the construction process is to continue, the valve must be protected from external factors by being placed under suitable protective material. Due to excavation, paint application, concrete pouring, etc. valve should not be damaged after the process.
- Care must be taken that the flanges connected to the pipeline are not pulled towards the valve when the bolts are tightened. Despite the tensile stresses that may occur, we recommend the use of dismantling joints together with the check valve.
- Allow sufficient space for easy use, maintenance, disassembly and cleaning of the valve in the environment where the valve is located.
- Connect the fittings between the flanges of the valve with the specified connection equipment and without first permitting one side of the valve and then the other side not to allow tensile stress to occur. Take the clearances of bolts and nuts and tighten each other at the specified torque.
- Donot close the check valve before cleaning the residue inside the pipeline.
- Taking into account the nominal pressure marked on the valve; Leak check should be done with 1.1 times of this pressure valve in closed position.

Replacing Disc Sealing

- Make sure that there is no pressure when the disc seal is replaced. Attention should be paid to safety regulations.
- The gasket can be replaced without removing the disc or removing the valve from the pipeline. However, at least, the valve should be accessible by separating it from one side of the pipeline.
- The disc must be in the fully open position.
- The bolts must be loosened reciprocally and the bolts and the retaining ring must be removed.
- The sealing ring and O-rings must be removed.
- The new sealing ring and O-rings must be gently lubricated with approved lubricant.
- Bolts must be tightened reciprocally using torque values specified on the table.
- Torque values for the disc sealing bolts (Nm)

DN100 DN150	DN200-DN250 DN300	DN350 DN1000 included
8.7	21.2	42

Shaft Area O-Ring Replacement

Make sure that there is no pressure on the line. Attention should be paid to safety regulations.

The valve should be accessible by separating it from one of the pipeline.

Remove the top cover by its bolts.

Remove the o-rings by removing the bolts on the disc.

With the pulling means, the main shaft should be pulled out, the upper adjustment bushing, the upper bushing and the control shaft must be removed out of the body and the key on the control shaft should not be dropped.

O-rings should be replaced with new ones, lightly lubricated with approved lubricant and installed on its place.

Make sure the setscrew allen area and upper cover fully faces each other and apply reverse operations of the diassembly process.

The same operations must be performed on the opposite side.

After maintenance, if the closed position leakage occurs, the bolts in the lower cover and upper cover area needs to be loosened and adjustment can be done by the help of setscrews.

Bolts must be tightened reciprocally by using torque values specified in the table.

M6	M8	M10	M12	M16	M20	M24	M30
8.7	21.2	42	73	180	370	603	1300

TILTING CHECK VALVE

FAF 2280

Troubleshooting

All repair and service works must be carried out by qualified personnel using suitable tools and original spare parts.

Problem	Cause	Remedial Action
Valve cannot be operated	Foreign material jammed inside the valve	Fully open the valve and take out the dirt inside the valve
Leaks in the body seat	Valve not completely closed	Fully close the valve by checking the weight
	Valve sealing ring worn or damaged	Replace sealing ring
Leak in valve pipe installation and body	Gaskets damaged	Replace gaskets
	Bolts/nuts are loose	Tighten according to mentioned torque values
Valve makes noise	Valve operating beyond its limits	Check the working conditions and design features. Change valve installation location or change the valve type suitable for the area of usage
	Wrong installation position. (Valve is too close to a reducer, elbow, control valve, etc.)	Change installation position
Torque value very high	Deposit (lime, sand, etc.) accumulation may happened on the body seat	Fully open the valve and clean the deposit
	Pipeline is dry, sealing ring is dry	Apply approved lubricant or silicone on body seat and sealing ring

TILTING CHECK VALVE - HYDRAULIC BRAKE

FAF 2280D



Features

- The sealing that can be made of EPDM, NBR and VITON materials can be dismantled and replaced easily on field conditions.
- Inner and outer surfaces of the valve is coated with 300 microns thickness of fusion bonded epoxy. Higher thicknesses are available upon request.
- Hydraulic braked swing check valves prevent the occurrence of hard brakes due to the effect of the braking system and virtually eliminate the noise, ram impact and damage.
- Ensures 100% sealing with the "T" section ring fixed to the outer diameter of the disc fully facing the seat surface inside the body perimeter made of stainless steel welding.
- Low moments are obtained by decreasing the friction through self lubricating bushings.
- Can bear high stretching stresses on the pipeline through the ductile iron body and disc.
- High impact resistance.
- Reduces the pressure loss through the disc designed in accordance with the direction of flow.
- Pressure loss is at minimum level by double shaft design.
- Countervalue allows installation of both horizontal and vertical pipes on the right and left sides of the mill, counterweight, and lever on both sides of the check valve.
- The clapper opens depending on the flow rate and moves freely depending on the flow.
- The position adjusts to the working conditions thanks to the adjustable weight.
- Lifting lugs and feet ease the balance during transport and installation.
- Hydraulic braked swing check valves prevent the occurrence of hard brakes due to the effect of the braking system and virtually eliminate the noise, ram impact and damage.
- The closing speed can also be adjusted in accordance with the operating conditions in the swing check valves with hydraulic brake.
- With the o-rings on the bearing bushings, disc pin holes are protected against corrosion (Dry shaft).
- Retaining ring is assembled to the disc with imbus bolts, the disc is protected against corrosion by placing o-rings under the bolts.
- Inner and outer surface of the valve is coated with minimum 300 micron thickness FBE coating.

Temperature

- +130 °C (EPDM)
- +100 °C (NBR)

PRODUCTION STANDARDS

DN200 → DN1600
PN 10-16-25

Design	EN 12334
Connection	EN 1092-2 / ISO 7005-2 - Flanged
End Connection	EN 558 SERIAL 14 / DIN 3202 F4
Marking	EN 19
Tests	EN 12266-1
Corrosion Protection	Electrostatic Powder Epoxy WRAS Approved (Optional)

Product Description

FAF2280D Series Tilting Check Valve The tilting check valve consists a circular disc with conical rim, hinged about a fixed pivot above its center-line and offset from the plane of the seat, sealing against a body seat clamped between the two sections of the valve body. FAF 2280D hydraulic brake system can be assembled to disc closing unit if it is required at project. The rate of closure can be controlled due to tilting check valve with hydraulic brake system and the system passes to static position slightly. The installation equipment protected from impact strength.

Versions

- Standard version with various pressure standards.
- Custom production for specific orders.
- Sealing gaskets can be made of EPDM, NBR or VITON.

General Information

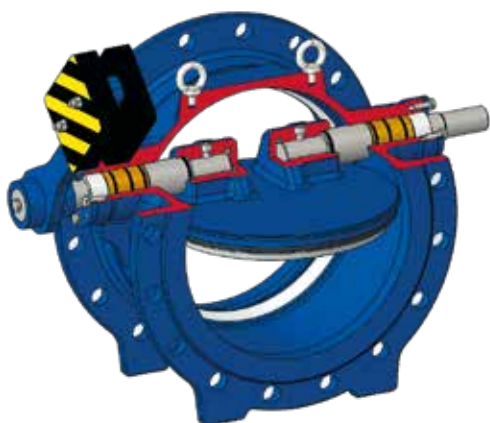
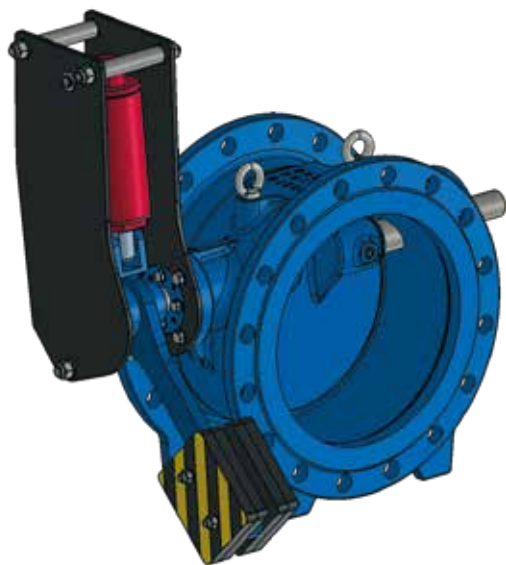
Valve is designed to be leakproof and with anti blow out shaft system when driving component (lever or hydraulic piston) are removed.

Scope of Application

- Pipelines
- Water Treatment Plants
- Pumping stations
- Tanks
- Seawater applications
- Power plants (cooling water pipelines)
- Industry

TILTING CHECK VALVE - HYDRAULIC BRAKE

FAF 2280D



MATERIAL SELECTION

Body EN-GJS-500 Ductile Iron / GGG50

Disc EN-GJS-500 Ductile Iron / GGG50

Shaft
1.4021 - AISI 304 Stainless Steel
1.4301 - AISI 420 Stainless Steel
1.4401 - AISI 316 Stainless Steel
1.4462 - Duplex Stainless Steel

Sealing EPDM, NBR, VITON

PRODUCTS MODEL CODES

FAF 2280D	PN16 WITH HYDRAULIC BRAKE SYSTEM
FAF 2281D	PN10 WITH HYDRAULIC BRAKE SYSTEM
FAF 2282D	PN25 WITH HYDRAULIC BRAKE SYSTEM

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6
25	37,5	27,5

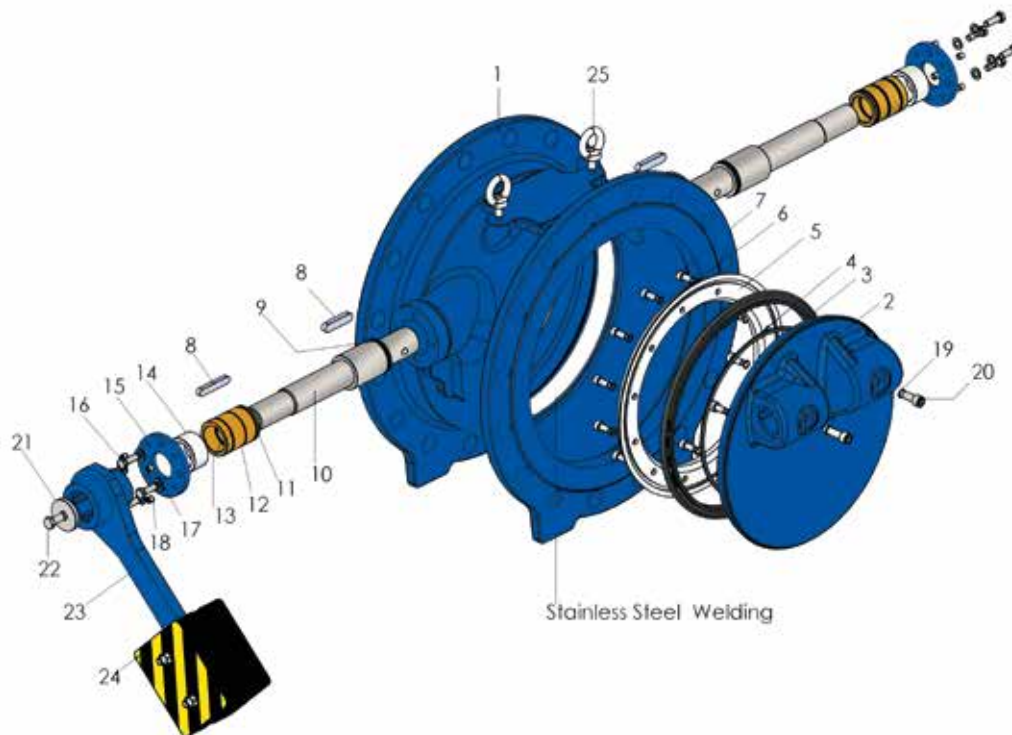
100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

- For proper use and safety precautions please follow the installation and operating instructions.

TILTING CHECK VALVE - HYDRAULIC BRAKE FAF 2280D

Material List



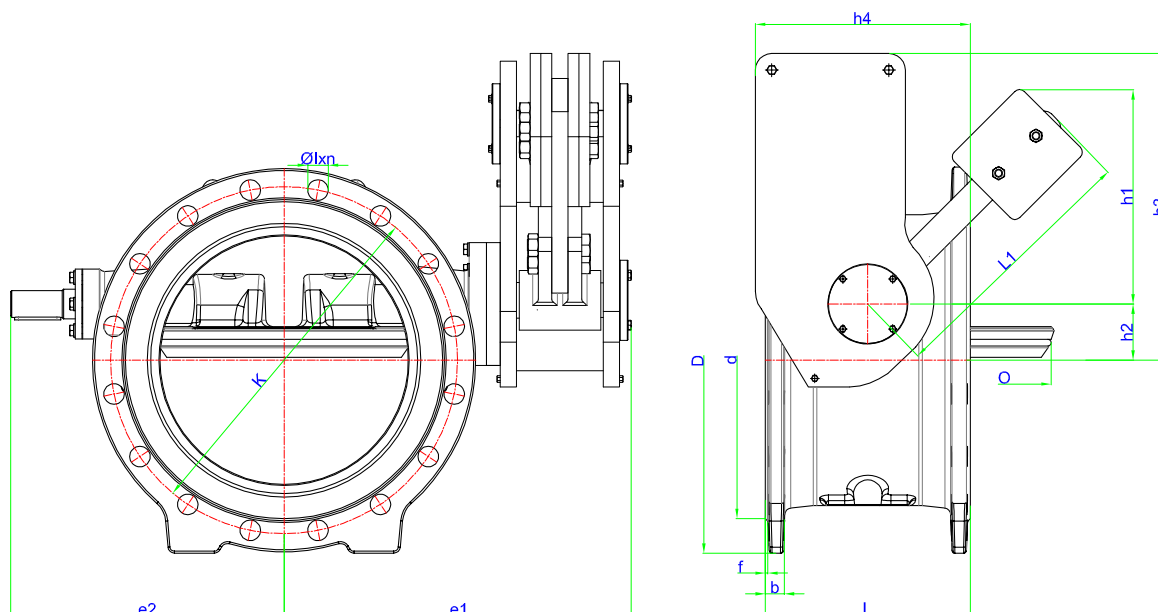
NO	ITEM	MATERIALS
1	BODY	EN GJS 500
2	DISC	EN GJS 500
3	SEALING RING	EPDM
4	O-RING	NBR / EPDM
5	RETAINING RING	STEEL 1.0254 OR STAINLESS STEEL 1.4301 / 1.4401
6	O RING	NBR / EPDM
7	IMBUS BOLT	STAINLESS STEEL A2
8	KEY	STEEL
9	O-RING	NBR / EPDM
10	SHAFT	STAINLESS STEEL 1.4021
11	O-RING	NBR / EPDM
12	BUSHING	BRONZE

NO	ITEM	MATERIALS
13	O RING	NBR / EPDM
14	SHAFT BEARING	DELRIN
15	COVER	STEEL 1.0254
16	HEXAGON BOLTS	STAINLESS STEEL 1.4021
17	WASHER	STAINLESS STEEL 1.4021
18	SETSCREW	STAINLESS STEEL A2
19	O RING	NBR / EPDM
20	IMBUS BOLT	STAINLESS STEEL A2
21	WASHER	STAINLESS STEEL 1.4021
22	HEXAGON BOLTS	STAINLESS STEEL 1.4021
23	LEVER	STEEL 1.0254
24	WEIGHT	STEEL 1.0254
25	LIFTING LUGS	STEEL

TILTING CHECK VALVE - HYDRAULIC BRAKE

FAF 2280D

Technical Details & Drawing, Dimensions



DIMENSIONS - PN10

DN (mm)	D	K	d	Ølxn	f	b	L	O	L1	e1	e2	h1	h2	h3	h4	Weight (kg)
100	220		156	19x8	3	19	190	101	202	210	171	170	22	260	270	25
150	285	240	211	23x8	3	19	210	148	202	231	196	187	36	283	264	36
200	340	295	266	23x8	4	20	230	200	250	320	272	215	40	460	255	54
250	400	350	319	23x12	4	22	250	248	250	368	310	215	50	470	265	78
300	455	400	370	23x12	4	24,5	270	282	300	397	341	263	60	480	277	105
350	505	460	429	23x16	4	24,5	290	39	400	440	374	328	75	562	328	163
400	565	515	480	28x16	4	24,5	310	385	400	490	430	335	85	572	341	200
450	615	565	530	28x20	1804	25,5	330	432	500	530	480	410	95	590	350	258
500	670	620	582	28x20	4	26,5	350	481	500	560	510	430	105	600	360	303
600	780	725	682	31x20	5	30	390	576	600	655	633	468	125	722	545	410
700	895	840	794	31x24	5	32,5	430	675	700	710	695	580	155	1080	775	629
800	1015	950	901	34x24	5	35	470	780	800	795	780	645	175	1100	835	860
900	1115	1050	1001	34x28	5	37,5	510	872	900	845	915	775	200	1280	860	1045
1000	1230	1160	1112	37x28	5	40	550	970	1000	945	917	805	210	1290	880	1390

DIMENSIONS - PN16

DN (mm)	D	K	d	Ølxn	f	b	L	O	L1	e1	e2	h1	h2	h3	h4	Weight (kg)
100	220	180	156	19x8	3	19	190	101	202	210	171	170	22	260	270	25
150	285	240	211	23x8	3	19	210	148	202	231	196	187	36	283	264	36
200	340	295	266	23x12	4	20	230	200	250	320	272	215	40	460	255	54
250	400	355	319	28x12	4	22	250	248	250	368	310	215	50	470	265	78
300	455	410	370	28x12	4	24,5	270	282	300	397	341	263	60	480	277	110
350	520	470	429	28x16	4	26,5	290	39	400	440	374	328	75	562	328	170
400	580	525	480	31x16	4	28	310	385	400	490	430	335	85	572	341	215
450	640	585	548	31x20	4	30	330	432	500	530	480	410	95	590	350	270
500	715	650	609	34x20	4	31,5	350	481	500	560	510	430	105	600	360	345
600	840	770	720	37x20	5	36	390	576	600	655	633	468	125	722	545	480
700	910	840	794	37x24	5	39,5	430	675	700	710	695	580	155	1080	775	650
800	1025	950	901	41x24	5	43	470	780	800	795	780	645	175	1100	835	910
900	1125	1050	1001	41x28	5	46,5	510	872	900	845	915	775	200	1280	860	1080
1000	1255	1170	1112	44x28	5	50	550	970	1000	945	917	805	210	1290	880	1450

TILTING CHECK VALVE - HYDRAULIC BRAKE

FAF 2280D



General

- Swing check valve are designed to close in emergency conditions by means of preventing the backflow of the fluid on the pipeline without the need of manual operation or additional source of energy. These check valves are used for the purpose of isolating the pipeline in emergency conditions.
- Swing check valves open with the flow and close with the stop of flow by the help of counter weight.
- The closing characteristics of the Swing check valve can be arranged by changing the position of the weight attached on the counter lever.

Transportation and Storage

- Check valves should be protected during transportation and storage with a proper cover.
- Check valves should be stored in a such a way to ensure proper usage after prolonged storage periods. This includes below point.
- Precautions needs to be taken for dirt, freezing or corrosion.
- Temperature range should be kept between + 5 ° C to +50 ° C.
- Sealing parts (resilient parts) should not be directly exposed to sunlight and/or UV lights.
- Should be stored in a dry and ventilated place. Shouldnot be in direct contact with sand and other wastes.

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Instructions for Maintenance, Inspection and Installation

In order to maintain safe and trouble-free usage of check valves, this manual should be reviewed carefully and the information given should be applied continuously.

Non-compliance with safety instructions would cause below results.

- Personal injuries
- Threats for both environment and the valve
- Malfunction of basic functions of valve / facility.
- Failure of foreseen maintenance and repair applications
- Threats to human due to electrical, mechanical and chemical effects.
- Damage of hazardous leakage to the environment

No revision on change on the valve can be made for the products supplied by "FAF VALVE". In case of non-compliance of the information supplied in this guide or for any revision made on the valve, "FAF VALVE" cannot be kept responsible for any damage or loss that may occur.

The installation, operation and maintenance processes of check valves should be done with authorized personnel. Even all "FAF VALVE" products are manufactured according to international directives and standards, with non-appropriate or out of scope usage, valves are equipment's that carry a potential danger.

Any personnel responsible from the storage, installation, operation, maintenance and disassembly of the check valve should carefully read this document and well understand. Before starting any work on valves or pipeline, all international and local safety regulations should be reviewed and understood, all necessary precautions should be taken.

If any repair will be done, there should not be pressure on the pipeline, if needed all fluid needs to be discharged and warning signboards needs to be placed around working area. If the valve to be repaired is a discharge valve, precautions needs to be taken to avoid the area to be flooded with water. Using original spare parts will maintain operational safety of the products. Manufacturer cannot be kept liable for any damage that may occur due to usage of non-original spare parts.

If a valve needs to be disassembled from the line, pipeline should be discharged. Since, after disassembly of the valve, the remaining fluid on the pipeline will flow freely, necessary precautions needs to be taken.

Sudden movements should be avoided during lifting, moving and unloading the valve. Sudden movements may damage the valve and/or the lifting equipment. Lifting the valve should only be done through the lifting lugs located on the valve body.

During lifting process, valve may move to one side involuntarily. The lifting operation done by crane should be done by experienced personnel and during lifting operation noone should enter working area except the crane operator.

TILTING CHECK VALVE - HYDRAULIC BRAKE

FAF 2280D



Installation Manual & Commissioning Instructions

- Make sure that the installer is qualified and well informed.
- Use appropriate lifting devices by checking the weight capacity and dimensions.
- The valves and pipes operated with high ($> 60^{\circ}\text{C}$) or low ($< 0^{\circ}\text{C}$) temperatures should be isolated or a warning sign stating "Donot touch" should be placed.
- At potable water pipelines, with greasing, cleaning and coating operations make sure that approved materials are used.
- On the pipeline, make sure the counter flanges installed are according to international standard norms as per EN 1092-1 / ISO 7005-1
- Prior to installation check the flange gasket surfaces, clean if needed. Make ready the sealing gaskets by selecting according to temperature, pressure and fluid type.
- Make ready the dimensions and quantities of connection elements (bolts, nuts, washers).
- Electrical cables should be installed by qualified personnel.
- Electrical equipment regulations (e.g. national / international standards) applicable to hazardous locations must be studied. Should be installed in dry places. The voltage and frequency must match those specified on the identification plate.
- Before installing the valve, remove any such residue from the line by air or steam, as corrosion, welding burrs, dirt and residue on your pipeline may cause deformation and leakage on the valve.
- The pipe alignment to which the valve is connected must be the same axis, the opposite flanges perpendicular to the pipe axis, and the flange bolt holes must be on the same axis. Otherwise, there may be leakage in the valve due to axial misalignment causing tension on the valve!
- If the construction process is to continue, the valve must be protected from external factors by being placed under suitable protective material. Due to excavation, paint application, concrete pouring, etc. valve should not be damaged after the process.
- Care must be taken that the flanges connected to the pipeline are not pulled towards the valve when the bolts are tightened. Despite the tensile stresses that may occur, we recommend the use of dismantling joints together with the check valve.
- Allow sufficient space for easy use, maintenance, disassembly and cleaning of the valve in the environment where the valve is located.
- Connect the fittings between the flanges of the valve with the specified connection equipment and without first permitting one side of the valve and then the other side not to allow tensile stress to occur. Take the clearances of bolts and nuts and tighten each other at the specified torque.
- Donot close the check valve before cleaning the residue inside the pipeline.
- Taking into account the nominal pressure marked on the valve; Leak check should be done with 1.1 times of this pressure valve in closed position.

Replacing Disc Sealing

- Make sure that there is no pressure when the disc seal is replaced. Attention should be paid to safety regulations.
- The gasket can be replaced without removing the disc or removing the valve from the pipeline. However, at least, the valve should be accessible by separating it from one side of the pipeline.
- The disc must be in the fully open position.
- The bolts must be loosened reciprocally and the bolts and the retaining ring must be removed.
- The sealing ring and O-rings must be removed.
- The new sealing ring and O-rings must be gently lubricated with approved lubricant.
- Bolts must be tightened reciprocally using torque values specified on the table.
- Torque values for the disc sealing bolts (Nm)

DN100 DN150	DN200-DN250 DN300	DN350 and DN1000 included
8.7	21.2	42

Shaft Area O-Ring Replacement

Make sure that there is no pressure on the line. Attention should be paid to safety regulations.

The valve should be accessible by separating it from one of the pipeline.

Remove the top cover by its bolts.

Remove the o-rings by removing the bolts on the disc.

With the pulling means, the main shaft should be pulled out, the upper adjustment bushing, the upper bushing and the control shaft must be removed out of the body and the key on the control shaft should not be dropped.

O-rings should be replaced with new ones, lightly lubricated with approved lubricant and installed on its place.

Make sure the setscrew allen area and upper cover fully faces each other and apply reverse operations of the disassembly process.

The same operations must be performed on the opposite side.

After maintenance, if the closed position leakage occurs, the bolts in the lower cover and upper cover area needs to be loosened and adjustment can be done by the help of setscrews.

Bolts must be tightened reciprocally by using torque values specified in the table.

M6	M8	M10	M12	M16	M20	M24	M30
8.7	21.2	42	73	180	370	603	1300

TILTING CHECK VALVE - HYDRAULIC BRAKE

FAF 2280D

Troubleshooting

All repair and service works must be carried out by qualified personnel using suitable tools and original spare parts.

Problem	Cause	Remedial Action
Valve cannot be operated	Foreign material jammed inside the valve	Fully open the valve and take out the dirt inside the valve
Leaks in the body seat	Valve not completely closed	Fully close the valve by checking the weight
	Valve sealing ring worn or damaged	Replace sealing ring
Leak in valve pipe installation and body	Gaskets damaged	Replace gaskets
	Bolts/nuts are loose	Tighten according to mentioned torque values
Valve makes noise	Valve operating beyond its limits	Check the working conditions and design features. Change valve installation location or change the valve type suitable for the area of usage
	Wrong installation position. (Valve is too close to a reducer, elbow, control valve, etc.)	Change installation position
Torque value very high	Deposit (lime, sand, etc.) accumulation may happened on the body seat	Fully open the valve and clean the deposit
	Pipeline is dry, sealing ring is dry	Apply approved lubricant or silicone on body seat and sealing ring

BALL CHECK VALVE

FAF2290



Features

- The ball rotates during operation eliminating the risk of impurities getting stuck on the ball.
- Can be installed in either vertical (upward flow only) or horizontal (cover upright) applications.
- Removable bonnet for cleaning or changing the ball without disassembly out of the pipeline.
- Smooth bore eliminates the risk of deposits at the bottom.
- Designed with focus on easy access to maintenance. By unscrewing a few bolts the bonnet assembly including hinge and ball can be removed from the body, and maintenance can be performed.
- All external surfaces are primed and painted for corrosion resistance.

Temperature

- -30 °C, +70 °C
- -10 °C, +80 °C

PRODUCTION STANDARDS

DN40 → DN800
PN 10-16

Design	EN 12334 / EN 16767
Connection	Flanged EN 1092-2 / ISO 7005-2
Face to Face	EN 558 Series 48 / DIN 3202 F6
Marking	EN 19
Tests	EN 12266-1
Corrosion Protection	Electrostatic Bonded Epoxy

Product Description

FAF2290 Ball Check Valve is favorite and proven valve model in the submersible water and wastewater industry for decades. The valve is full bore thanks to the moving of the ball with self cleaning features.

Versions

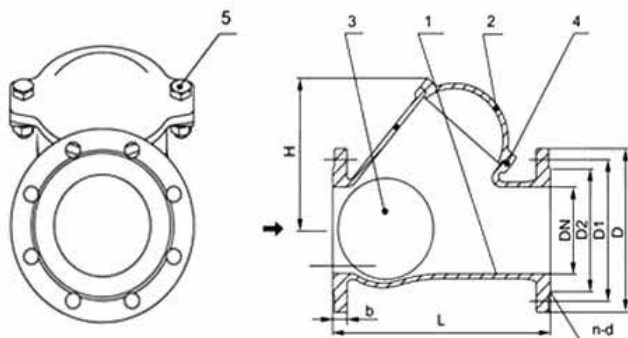
- Standard version with NBR rubber vulcanised steel ball
- Custom production for specific orders

Scope of Application

- Non-potable water
- Sewage applications
- Wastewater treatment
- Neutral liquids
- Industrial applications

BALL CHECK VALVE

FAF2290



MATERIAL SELECTION

Body EN- GJS-400 Ductile Iron / GGG40

Bonnet EN- GJS-400 Ductile Iron / GGG40

Ball Steel + EPDM/NBR

Gasket EPDM/NBR

Bolting AISI 304

PRODUCTS MODEL CODES

2290	BALL CHECK VALVE
2295	BALL CHECK VALVE THREADED

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

- For proper use and safety precautions please follow the installation and operating instructions.

NO	ITEM	MATERIALS
1	Body	Ductile Iron ASTM A536
2	Bonnet	Ductile Iron ASTM A536
3	Ball	Steel+NBR/EPDM
4	Bonnet Gasket	NBR/EPDM
5	Bolting	Stainless Steel AISI304

DN (mm)	NPS	L	D	D1	D2	n-φd	b	h
50	2	200	165	125	102	4-18	19	100
65	2-1/2	240	185	145	122	4-18	19	125
80	3	260	200	160	138	8-18	19	136
100	4	300	220	180	158	8-18	19	185
125	5	350	250	210	188	8-18	19	196
150	6	400	285	240	212	8-22	19	265
200	8	500	340	295	268	8-22	20	340
250	12	600	405	350	320	12-22	22	420
300	14	700	460	400	370	12-22	24,5	480

WAFER SWING CHECK VALVE

FAF2300



Features

- The disc hinged on the body is placed within the flow section.
- With the start of movement at defined flow direction on the system, the disc leaves the flow section by turning in its axis and allows the flow pass.
- When the flow stops, the disc sits on the EPDM sealing rings placed on the body through disc spring force and maintains %100 tight sealing.
- Designed to maintain the minimum head loss on the pipeline.
- Through its short installation length and eye screw (hook), easy to install between two flanges.
- Due in part to their oversized, heavier discs, typical full-sized swing check valves only fully open at an average flow rate of 11 ft/s. When activated at a lower flow rate, these valves lose true controllability and do not fully open.
- A partially open disc creates an obstruction that produces a higher pressure drop and fluttering of the valve disc - disturbing the flow and increasing the chance of water hammer.
- FAF2300 is suitable to eliminate these problems. It has been engineered to accelerate line media through the valve and achieve a virtually unobstructed full opening in low pressure.
- Constructed with stainless steel swing.
- Body can be made of galvanized carbon steel (FAF2330) or stainless steel (FAF2300). Disc is made of 1.4301/AISI 304 stainless steel for both types.
- Has stainless steel body, disc and spring.
- Can be installed in horizontal or vertical position
- No maintenance needed.
- Effective for preventing minor leakage.

Temperature

- +130 °C

PRODUCTION STANDARDS

DN25 → DN400
PN 16

Design	EN 14341
Connection	Wafer Type EN 1092-1 / ISO 7005-1
Face to Face	EN 558 Series 97
Marking	EN 19
Tests	EN 12266-1
Corrosion Protection	Electrostatic Powder Epoxy (FBE)

Product Description

FAF2300 Wafer type Check Valve, while allowing the flow moving to the desired flow direction, stops the flow when exposed to backflow.

Versions

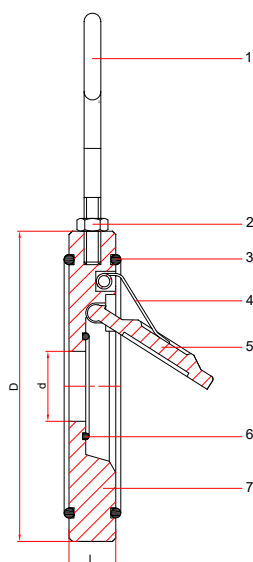
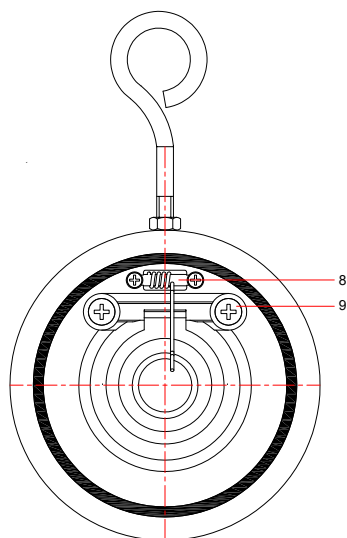
- Standard version as stainless steel
- Custom production for specific orders

Scope of Application

- Steam
- Hot & cold water
- Power & heat engineering
- Pressurized Air
- Industrial technologies
- Fluids without acidity or alkalinity properties

WAFER SWING CHECK VALVE

FAF2300



PRODUCTS MODEL CODES

FAF2300	WAFER CHECK VALVE - STAINLESS STEEL
FAF2330	WAFER CHECK VALVE - CARBON STEEL
FAF2340	CHECK VALVE - FORGED
FAF2350	DUAL CHECK VALVE - STAINLESS STEEL
FAF2355	DUAL CHECK VALVE - NICKEL
FAF2370	WAFER CHECK VALVE - CARBON STEEL
FAF2371	WAFER CHECK VALVE - CARBON STEEL

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

- For proper use and safety precautions please follow the installation and operating instructions.

NO	ITEM	MATERIALS
1	Hook	Steel
2	Nut	Din 934
3	O-Ring	EPDM
4	Spring	Stainless Steel
5	Disc	Stainless Steel 1.4301 - AISI 304
6	O-Ring	EPDM
7	Body	Stainless Steel 1.4301 - AISI 304, WCB CAST STEEL
8	Shaft	Stainless Steel
9	Bolt	Stainless Steel

Technical Details & Drawing, Dimensions

DN	DIMENSION			RATINGS		STUD SIZE	BOLT/NUT QTY	FASTENING MOMENT Nm	WRENCH SIZE (mm)
mm	D	d	L	KV m ³ /h	Weight Kg				
25	71	11	14	35	0,4	M12X70	4	85	19
32	81	20	14	55	0,5	M16X75	4	205	24
40	93	23	14	88	0,7	M16X75	4	205	24
50	109	32	14	160	0,8	M16X80	4	205	24
65	129	40	14	245	1,2	M16X80	4	205	24
80	144	54	14	400	1,5	M16X90	8	205	24
100	164	70	18	615	2,3	M16X90	8	205	24
125	195	92	18	1000	3,1	M16X100	8	205	24
150	220	112	20	1500	4	M20X110	8	400	30
200	275	154	22	2350	7,5	M20X120	12	400	30
250	330	192	26	3100	13,9	M24X140	12	691	36
300	380	227	32	4000	15,8	M24X150	12	691	36
350	440	270	38	5900	25,8	M24X170	16	691	36
400	490	315	44	7500	36,3	M27X180	16	1010	41

WAFER SWING CHECK VALVE

FAF2300

Installation And Operation Manual

A. Before Installation

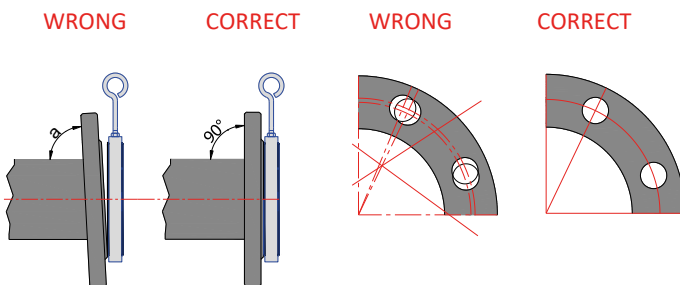
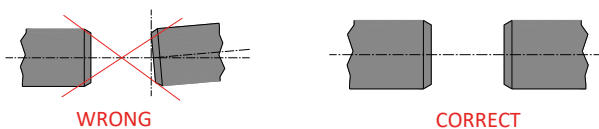
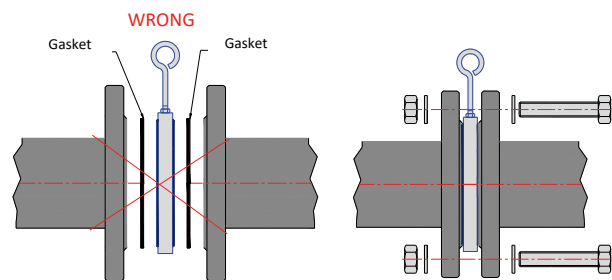
1. Make sure that the installer is knowledgeable and skilled.
2. On the pipeline, use counter flanges according to EN 1092-1/ISO 7005-1 standard.
 - a. Before installation, check the counter flange surfaces, clean if necessary.
 - b. Make ready the flange connection equipments (bolts, nuts and washers) by selecting the dimensions and the quantities to be used from our "Pipeline connection equipments" table.
3. Before installing the valve, remove any such residue from the pipeline by air or steam, as corrosion, welding burrs, dirt and residue on your pipeline may cause deformation and erosion on the valve.

B. During Installation

1. Remove the check valve from its package.
2. The flow direction of the check valve is defined on the body. The flow direction must be compatible with the flow direction in the installation.
3. The pipe centers to be connected to the check valve should be on the same axis, the counter flanges should be perpendicular to the pipe axis and the flange bolt holes should be on the same axis. Otherwise, there may be leakage in the valve due to axial misalignment causing stresses on the valve.
4. O-rings on check valve body is used as sealing gasket. Due to this reason, **DONOTUSE** any additional gasket with your installation. By holding the lifting lug located on the check valve, center the check valve to the pipe axis. Place the check valve between the two counter flanges with the specified connection equipments. Do not allow tensile stress to occur. Take the clearances of the bolts and nuts and tighten each other at the specified torque reciprocally.
5. Taking into consideration the nominal pressure rating marked on the valve; check for leakages with 1.1 times this nominal pressure.

Instructions For Use

1. In cold climate conditions, it is absolutely necessary to insulate the the check valves as the frozen water inside the valves may cause danger to valves and other equipments.
2. Valve operating pressure is printed on the body. Valve sealing tests are done during the production stage, where the body strength test (shell test) is 1.5 times of the operating pressure, where the leakage test (seat test) is 1.1 times of the operating pressure. Although the valve is tested with more pressure ratings than its operating pressure rating, please note that the design and operation of the valve is determined according to the operating pressure. Applying higher pressure values than the operating pressure will cause damage to the valve.
3. For efficient operation of your pipeline, precautions should be taken against calcification and rusting with chemicals or anti-corrosion systems.
4. In order to protect the valves on your installation system from the residue on the line; it is extremely important to use strainer at a proper location on the pipeline for efficient operation of your installation.



WAFER SWING CHECK VALVE

FAF2330



Features

- The disc hinged on the body is placed within the flow section.
- With the start of movement at defined flow direction on the system, the disc leaves the flow section by turning in its axis and allows the flow pass.
- When the flow stops, the disc sits on the EPDM sealing rings placed on the body through disc spring force and maintains 100% tight sealing.
- Deigned to maintain the minimum head loss on the pipeline.
- Through its short installation length and eye screw (hook), easy to install between two flanges.
- Due in part to their oversized, heavier discs, typical full-sized swing check valves only fully open at an average flow rate of 11 ft/s. When activated at a lower flow rate, these valves loose true controllability and do not fully open.
- A partially open disc creates an obstruction that produces a higher pressure drop and fluttering of the valve disc - disturbing the flow and increasing the chance of water hammer.
- FAF2330 is suitable to eliminate these problems. It has been engineered to accelerate line media through the valve and achieve a virtually unobstructed full opening in low pressure.
- Constructed with stainless steel swing.
- Body can be made of galvanized carbon steel (FAF2330) or stainless steel (FAF2300). Disc is made of 1.4301/AISI 304 stainless steel for both types.
- Has stainless steel body, disc and spring.
- Can be installed in horizontal or vertical position
- No maintenance needed.
- Effective for preventing minor leakage.

Temperature

- +130 °C

PRODUCTION STANDARDS

DN25 → DN400
PN 16

Design	EN 14341
Connection	Wafer Type EN 1092-1 / ISO 7005-1
Face to Face	EN 558 Series 97
Marking	EN 19
Tests	EN 12266-1
Corrosion Protection	Electrostatic Powder Epoxy (FBE)

Product Description

FAF2330 Wafer type Check Valve, while allowing the flow moving to the desired flow direction, stops the flow when exposed to backflow.

Versions

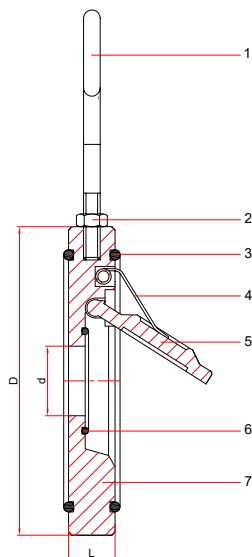
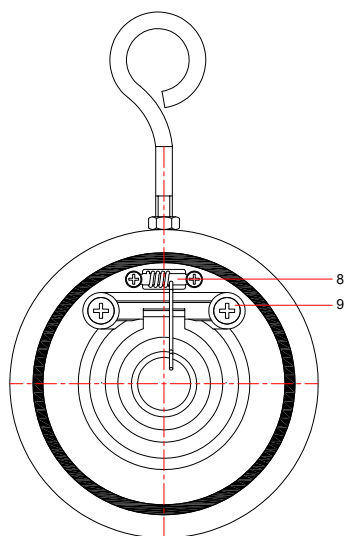
- Standard version as stainless steel
- Custom production for specific orders

Scope of Application

- Steam
- Hot & cold water
- Power & heat engineering
- Pressurized Air
- Industrial technologies
- Fluids without acidity or alkalinity properties

WAFER SWING CHECK VALVE

FAF2330



PRODUCTS MODEL CODES

FAF2300	WAFER CHECK VALVE - STAINLESS STEEL
FAF2330	WAFER CHECK VALVE - CARBON STEEL
FAF2340	CHECK VALVE - FORGED
FAF2350	DUAL CHECK VALVE - STAINLESS STEEL
FAF2355	DUAL CHECK VALVE - NICKEL
FAF2370	WAFER CHECK VALVE - CARBON STEEL
FAF2371	WAFER CHECK VALVE - CARBON STEEL

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

- For proper use and safety precautions please follow the installation and operating instructions.

NO	ITEM	MATERIALS
1	Hook	Steel
2	Nut	Din 934
3	O-Ring	EPDM
4	Spring	Stainless Steel
5	Disc	Stainless Steel 1.4301 - AISI 304
6	O-Ring	EPDM
7	Body	Stainless Steel 1.4301 - AISI 304, WCB CAST STEEL
8	Shaft	Stainless Steel
9	Bolt	Stainless Steel

Technical Details & Drawing, Dimensions

DN	DIMENSION			RATINGS		STUD SIZE	BOLT/NUT QTY	FASTENING MOMENT Nm	WRENCH SIZE (mm)
mm	D	d	L	KV m ³ /h	Weight Kg				
25	71	11	14	35	0,4	M12X70	4	85	19
32	81	20	14	55	0,5	M16X75	4	205	24
40	93	23	14	88	0,7	M16X75	4	205	24
50	109	32	14	160	0,8	M16X80	4	205	24
65	129	40	14	245	1,2	M16X80	4	205	24
80	144	54	14	400	1,5	M16X90	8	205	24
100	164	70	18	615	2,3	M16X90	8	205	24
125	195	92	18	1000	3,1	M16X100	8	205	24
150	220	112	20	1500	4	M20X110	8	400	30
200	275	154	22	2350	7,5	M20X120	12	400	30
250	330	192	26	3100	13,9	M24X140	12	691	36
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350	440	270	38	5900	25,8	M24X170	16	691	36
400	490	315	44	7500	36,3	M27X180	16	1010	41

WAFER SWING CHECK VALVE

FAF2330

Installation And Operation Manual

A. Before Installation

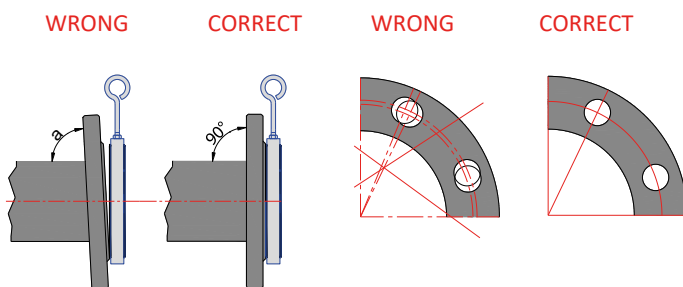
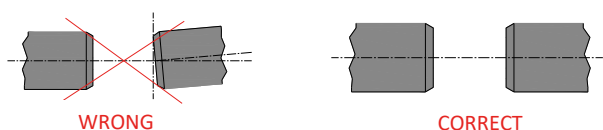
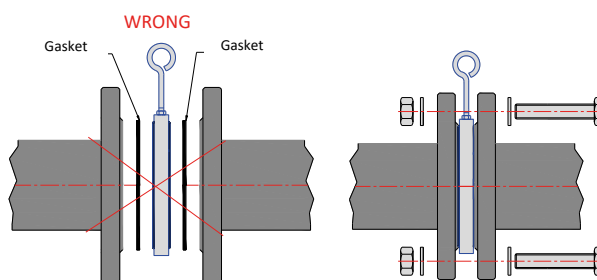
1. Make sure that the installer is knowledgeable and skilled.
2. On the pipeline, use counter flanges according to EN 1092-1/ISO 7005-1 standard.
 - a. Before installation, check the counter flange surfaces, clean if necessary.
 - b. Make ready the flange connection equipments (bolts, nuts and washers) by selecting the dimensions and the quantities to be used from our "Pipeline connection equipments" table.
3. Before installing the valve, remove any such residue from the pipeline by air or steam, as corrosion, welding burrs, dirt and residue on your pipeline may cause deformation and erosion on the valve.

B. During Installation

1. Remove the check valve from its package.
2. The flow direction of the check valve is defined on the body. The flow direction must be compatible with the flow direction in the installation.
3. The pipe centers to be connected to the check valve should be on the same axis, the counter flanges should be perpendicular to the pipe axis and the flange bolt holes should be on the same axis. Otherwise, there may be leakage in the valve due to axial misalignment causing stresses on the valve.
4. O-rings on check valve body is used as sealing gasket. Due to this reason, **DONOT USE** any additional gasket with your installation. By holding the lifting lug located on the check valve, center the check valve to the pipe axis. Place the check valve between the two counter flanges with the specified connection equipments. Do not allow tensile stress to occur. Take the clearances of the bolts and nuts and tighten each other at the specified torque reciprocally.
5. Taking into consideration the nominal pressure rating marked on the valve; check for leakages with 1.1 times this nominal pressure.

Instructions For Use

1. In cold climate conditions, it is absolutely necessary to insulate the the check valves as the frozen water inside the valves may cause danger to valves and other equipments.
2. Valve operating pressure is printed on the body. Valve sealing tests are done during the production stage, where the body strength test (shell test) is 1.5 times of the operating pressure, where the leakage test (seat test) is 1.1 times of the operating pressure. Although the valve is tested with more pressure ratings than its operating pressure rating, please note that the design and operation of the valve is determined according to the operating pressure. Applying higher pressure values than the operating pressure will cause damage to the valve.
3. For efficient operation of your pipeline, precautions should be taken against calcification and rusting with chemicals or anti-corrosion systems.
4. In order to protect the valves on your installation system from the residue on the line; it is extremely important to use strainer at a proper location on the pipeline for efficient operation of your installation.



DUAL CHECK VALVE

2350



Features

- The body and the disc when the determined flow in the system starts.
- The disc hinged on the body is placed within the flow section.
- Halves stainless steel disc, which are positioned in the body seats on sealing EPDM gaskets and provides 100% tight sealing.
- Expanders shorten and halves discs lap and let to flow between the body and the disc when the determined flow in the system starts.
- With the start of movement at defined flow direction on the system, the disc leaves the flow section by turning in its axis and allows the flow pass.
- When the flow stops, the disc sits on the EPDM sealing rings placed on the body through disc spring force and maintains 100% tight sealing.
- Deigned to maintain the minimum head loss on the pipeline.
- Through its short installation length and eye screw (hook), easy to install between two flanges.
- A partially open disc creates an obstruction that produces a higher pressure drop and fluttering of the valve disc - disturbing the flow and increasing the chance of water hammer.
- Constructed with stainless steel disc.
- Can be installed in horizontal or vertical position
- No maintenance needed.

Temperature

- +130 °C

PRODUCTION STANDARDS

DN25 → DN400
PN 16

Design	EN 12334
Connection	Wafer Type EN 1092-1 / ISO 7005-2
Face to Face	EN 558 Series 16
Marking	EN 19
Tests	EN 12266-1
Corrosion Protection	Electrostatic Powder Epoxy

Product Description

FAF2350 Dual Check Valve let to fluids in the facility required downstream and ceases the flow in case of reverse flow.

Versions

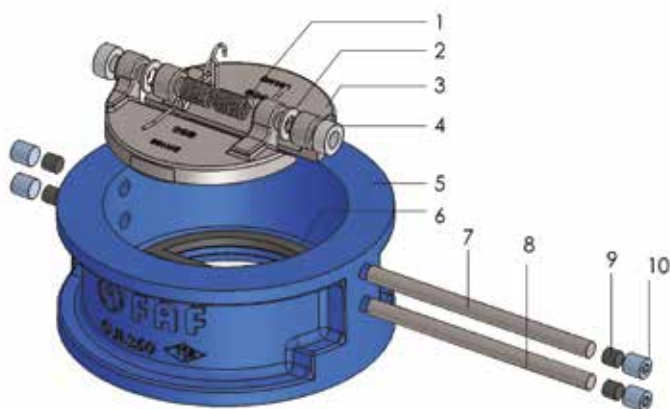
- Standard version as stainless steel disc
- Custom production for specific orders

Scope of Application

- Steam
- Hot & cold water
- Power & heat engineering
- Pressurized Air
- Industrial technologies
- Fluids without acidity or alkalinity properties

DUAL CHECK VALVE

2350



NO	ITEM	MATERIALS
1	SPRING	Stainless Steel 1.4301 - AISI 304
2	WASHER	PTFE
3	DISC	Stainless Steel 1.4301 - AISI 304
4	WASHER	PTFE
5	BODY	EN GJL 250 Cast Iron / GG25
6	DISC GASKET	EPDM
7	END SHAFT	Stainless Steel 1.4021 - AISI 420
8	DISC SHAFT	Stainless Steel 1.4021 - AISI 420
9	GASKET	EPDM
10	SETSCREW	Stainless Steel

PRODUCTS MODEL CODES

FAF2300	WAFFER CHECK VALVE - STAINLESS STEEL
FAF2330	WAFFER CHECK VALVE - CARBON STEEL
FAF2340	CHECK VALVE - FORGED
FAF2350	DUAL CHECK VALVE - STAINLESS STEEL
FAF2355	DUAL CHECK VALVE - NICKEL
FAF2370	WAFFER CHECK VALVE - CARBON STEEL
FAF2371	WAFFER CHECK VALVE - CARBON STEEL

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

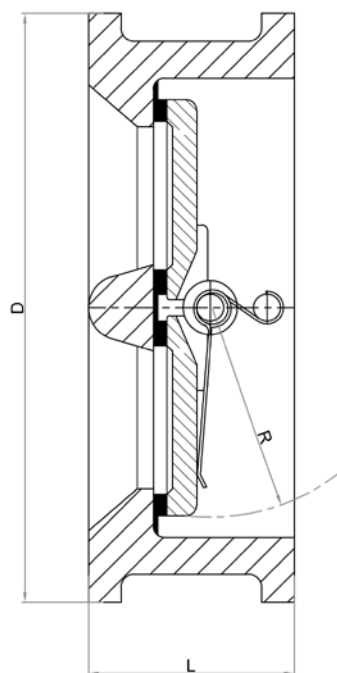
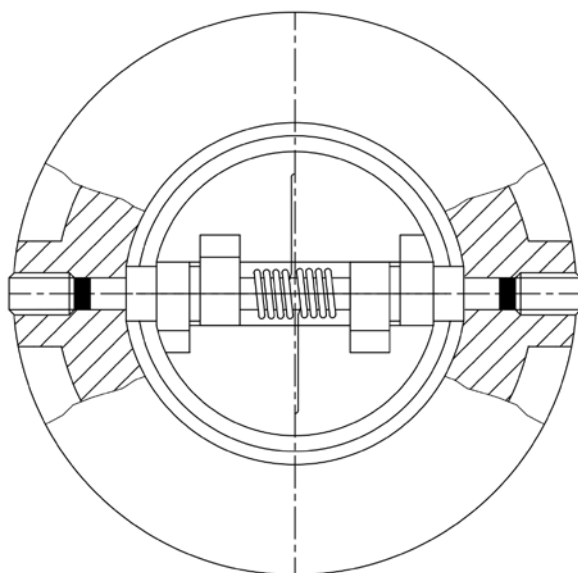
Note

- For proper use and safety precautions please follow the installation and operating instructions.

DUAL CHECK VALVE

2350

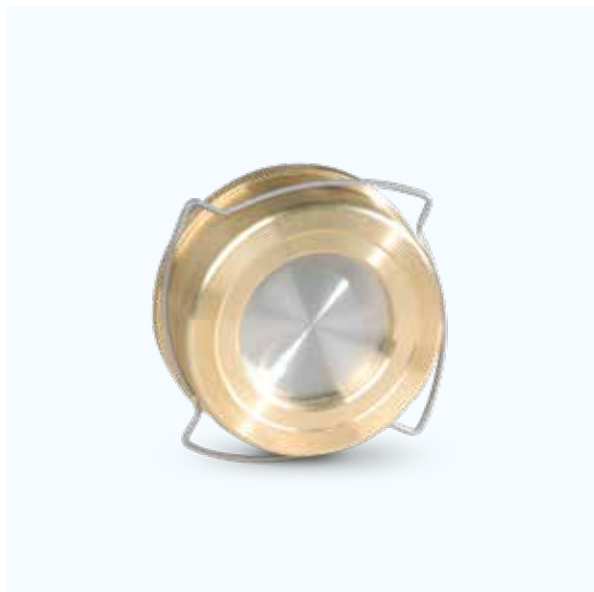
Technical Details & Drawing, Dimensions



DN	DIMENSION				RATINGS		STUD SIZE	BOLT/NUT QTY	NUT	
mm	D	L	D1	R	KV m³/h	Weight Kg			FASTENING MOMENT Nm	WRENCH SIZE (mm)
40	92	33	37	23	30	1,1	M16X100	4	205	24
50	107	43	40	27	45	1,7	M16X110	4	205	24
65	127	46	60	35	70	2,3	M16X120	4	205	24
80	142	64	70	42	120	3,6	M16X140	8	205	24
100	162	64	88	50	240	4,4	M16X140	8	205	24
125	192	70	115	64	350	6,4	M16X150	8	205	24
150	218	76	134	77	650	9,1	M20X160	8	400	30
200	273	89	182	102,5	1300	14,1	M20X170	12	400	30
250	328	114	220	125	2100	26,6	M24X210	12	691	36
300	378	114	260	146	3500	36,1	M24X210	12	691	36
350	437	127	298	170	5000	50	M24X230	16	691	36
400	488	140	350	195	8000	59,7	M27X250	16	1010	41

DISC CHECK VALVE

2370



Features

- The body and the disc when the determined flow in the system starts.
- The expander shortens and the disc shrinks back and let to flow between the body and the disc when the determined flow in the system starts.
- It can be used at horizontal and vertical positions.
- With its short installation length and hooks on the body it can be installed easily.
- The disc hinged on the body is placed within the flow section.
- With the start of movement at defined flow direction on the system, the disc leaves the flow section by turning in its axis and allows the flow pass.
- Designed to maintain the minimum head loss on the pipeline.
- Due in part to their oversized, heavier discs, typical full-sized swing check valves only fully open at an average flow rate of 11 ft/s. When activated at a lower flow rate, these valves lose true controllability and do not fully open.
- A partially open disc creates an obstruction that produces a higher pressure drop and fluttering of the valve disc - disturbing the flow and increasing the chance of water hammer.
- Constructed with stainless steel spring.
- Has brass body, stainless steel disc and spring.
- No maintenance needed.
- Effective for preventing minor leakage.

Temperature

- +200 °C

PRODUCTION STANDARDS

DN25 → DN400
PN 16

Connection	Wafer Type EN 1092-1 / ISO 7005-1
Face to Face	EN 558 Series 49
Marking	EN 19
Tests	EN 12266-1

Product Description

FAF2370 Disc-O check valve let to fluids in the facility required downstream and ceases the flow in case of reverse flow. Stainless steel disc, which is positioned in brass body seats on sealing surface that processed on the body via expander force and provides 100% tight sealing.

Versions

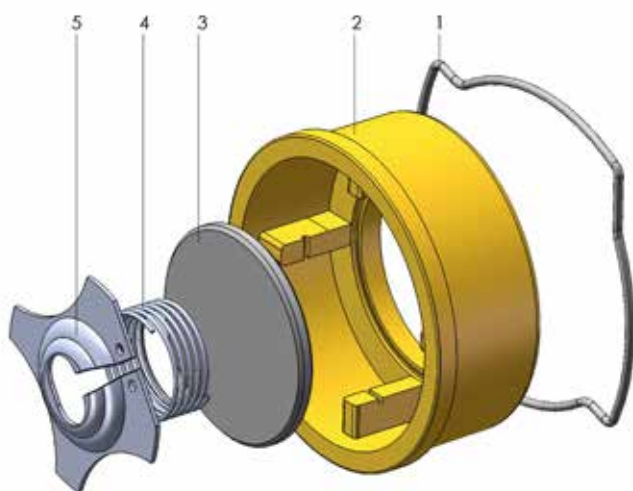
- Standard version as brass body and stainless steel disc
- Custom production for specific orders

Scope of Application

- Steam
- Hot & cold water
- Power & heat engineering
- Pressurized Air
- Industrial technologies
- Fluids without acidity or alkalinity properties

DISC CHECK VALVE

2370



NO	ITEM	MATERIALS
1	SPRING	1.4301 - AISI 304 Stainless Steel
2	BODY	CUZn40PB2 MS 58 - BRASS DN125 AND OVER: EN-GJS-400 DUCTILE IRON / GGG40
3	COVER	1.4301 - AISI 304 Stainless Steel DN125 and Over: EN-GJS-400 Ductile Iron / GGG40
4	DISC	1.4301 - AISI 304 Stainless Steel
5	SPRING	1.4301 - AISI 304 Stainless Steel

PRODUCTS MODEL CODES

FAF2300	WAFFER CHECK VALVE - STAINLESS STEEL
FAF2330	WAFFER CHECK VALVE - CARBON STEEL
FAF2340	CHECK VALVE - FORGED
FAF2350	DUAL CHECK VALVE - STAINLESS STEEL
FAF2355	DUAL CHECK VALVE - NICKEL
FAF2370	WAFFER CHECK VALVE - CARBON STEEL
FAF2371	WAFFER CHECK VALVE - CARBON STEEL

VALVE TEST PRESSURE (Bar)

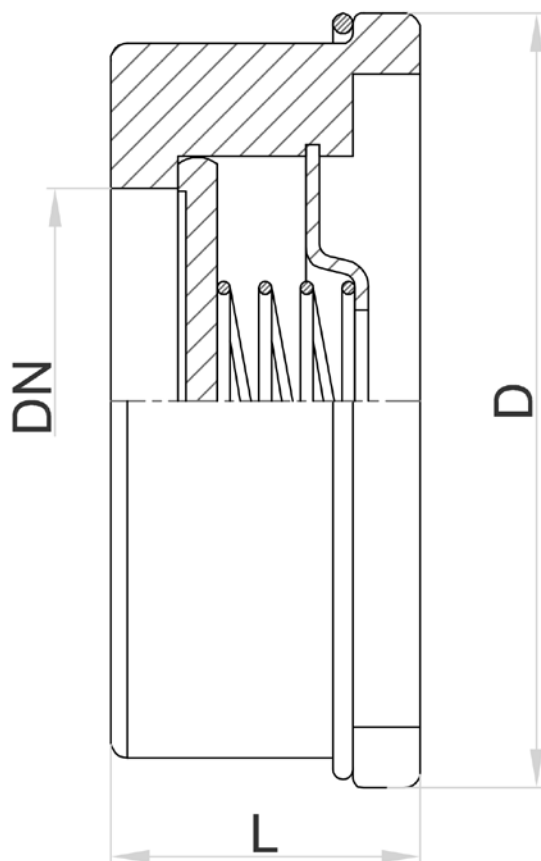
MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

- For proper use and safety precautions please follow the installation and operating instructions.

Technical Details & Drawing, Dimensions



DN	DIMENSION		RATINGS		STUD SIZE	BOLT/NUT QTY	FASTENING MOMENT Nm	WRENCH SIZE (mm)
mm	D	L	KV m³/h	Weight Kg				
15	40	16	4	0,1	M12X70	4	85	19
20	47	19	7,5	0,15	M12X80	4	85	19
25	56	22	11	0,2	M12X80	4	85	19
32	76	28	19	0,45	M16X90	4	205	24
40	82	31,5	36	0,6	M16X100	4	205	24
50	95	40	47	1	M16X110	4	205	24
65	115	46	85	1,4	M16X120	4	205	24
80	132	50	123	2,1	M16X130	8	205	24
100	152	60	247	3,25	M16X140	8	205	24
125	184	90	393	8	M16X170	8	205	24
150	209	106	683	10,4	M20X200	8	400	30
200	264	140	1324	21	M20X240	12	400	30

STRAINER Y-TYPE

FAF 2500



Features

- Y-Type strainer is used for filtering the mass particles inside the flow through the steel filter chamber situated in the body.
- Straining is accomplished with an internal mesh lined straining element, the size of which should be determined based on the size of the smallest particle to be removed. Recommended for installation upstream of control valves.
- Double filter Construction avoids water hammer effects.
- By removing the cover placed on the body, detailed cleaning can be performed or filter can be replaced. Quick removal of lid for maintenance.
- The hole diameters on the filters are determined in order to have a minimum effect on the head loss and flow rate.
- According to request, the hole diameters of the filters can be manufactured in different dimensions.
- Inner and outer surfaces of the Y-type strainer are coated with fusion bonded powder epoxy (FBE) optionally with industrial epoxy.
- DN 15-DN 200 Filter size: 20 Mesh.
- DN 250- DN 400 Filter size: 40 Mesh.
- Filter mesh size can be changed according to request.
- Plug MS58 BRASS.
- Stock piled for quick delivery.

Temperature

- +200 °C

PRODUCTION STANDARDS

DN15 → DN400
PN 10-16

Connection	EN 1092-2 / ISO 7005-2 - Flanged
Face to Face	EN 558 Series 1 / DIN 3202 F1 / TS 11494
Marking	EN 19
Tests	EN 12266-1
Corrosion Protection	Electrostatic Powder Epoxy

Product Description

FAF2500 Y-Strainers are installed in a piping system to remove unwanted debris from the pipeline, protecting expensive equipment downstream such as pumps, meters, spray nozzles, compressor, and turbines. They can be placed in a horizontal or vertical pipeline as long as the screen is in a downward position.

Versions

- Standard version
- Custom production for specific orders
- Fusion bonded epoxy (FBE) coating
- Industrial Epoxy coating

Spare Parts

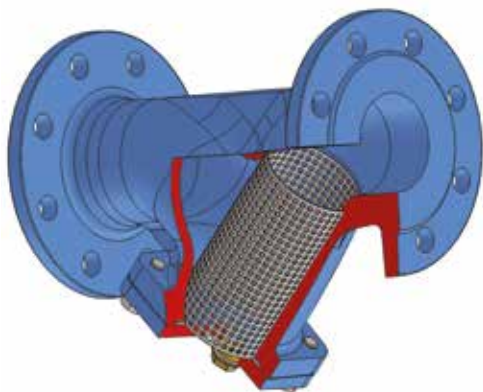
- Stainless steel filters
- Sealing Gasket

Scope of Application

- Chamber installation
- Installation in plants
- Pipelines
- Water treatment plants
- Pumping stations
- Tanks, reservoirs
- Seawater applications
- Power plants (cooling water pipelines)
- Industry

STRAINER Y-TYPE

FAF 2500



MATERIAL SELECTION

Body EN-GJS-500 DUCTILE IRON / GGG50

Filter 1.4301 - AISI 304 Stainless Steel

Plug MS 58 - Brass

VALVE TEST PRESSURE (Bar)

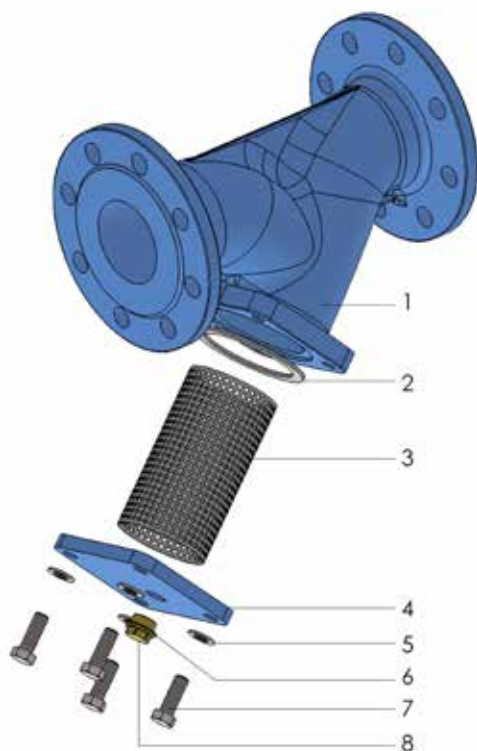
MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

- For proper use and safety precautions please follow the installation and operating instructions.

Material List

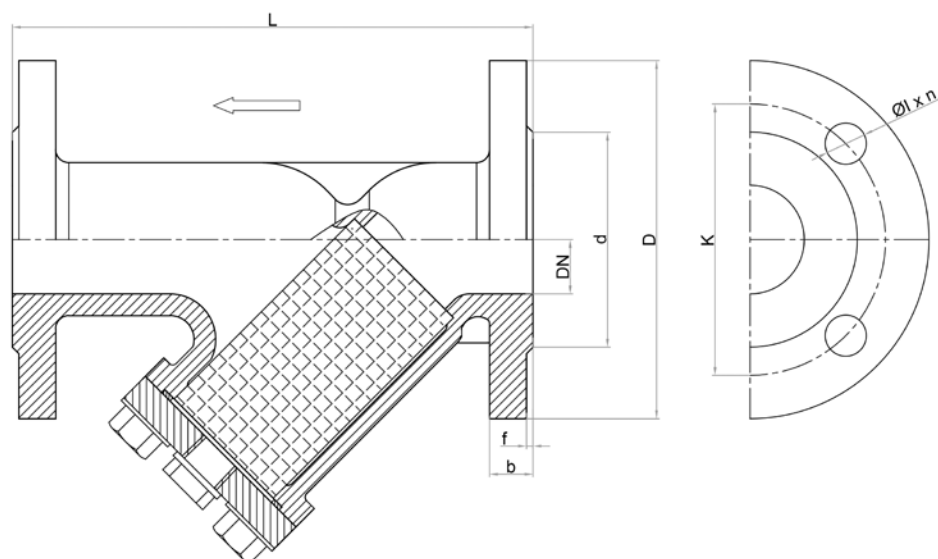


NO	ITEM	MATERIALS
1	BODY	EN-GJS-500 DUCTILE IRON
2	SEALING GASKET	KLINGERITE
3	FILTER	1.4301 STAINLESS STEEL
4	COVER	ST 37 STEEL
5	WASHER	DIN 125
6	CIRCLIP	DIN 472
7	BOLTS	DIN993
8	NUT	CuZn40Pb2 BRASS

STRAINER Y-TYPE

FAF 2500

Technical Details & Drawing, Dimensions



DN (mm)	D	K	d	Øl x n	f	b	L	Weight (kg)
15	95	65	46	14x4	2	14	130	1,9
20	105	75	56	14x4	2	16	150	3
25	115	85	65	14x4	3	16	160	4
32	140	100	76	19x4	3	18	180	5,8
40	150	110	84	19x4	3	18	200	7,6
50	165	125	99	19x4	3	20	230	10,3
65	185	145	118	19x4	3	20	290	14,4
80	200	160	132	19x8	3	22	310	18,8
100	220	180	156	19x8	3	24	350	22,7
125	250	210	184	19x8	3	26	400	34,5
150	285	240	211	23x8	3	26	480	50
200	340	295	266	23x12	4	30	600	89,5
250	405	355	319	28x12	4	32	730	166
300	460	410	370	28x12	4	32	850	196
350	520	470	429	28x16	4	36	980	225
400	580	525	480	31x16	4	38	1100	318

BUTTERFLY VALVE - WAFER

FAF 3500



Features

- Equipped with various disc materials and can be used in various flow types and different applications with the EPDM, NBR and VITON seat options.
- Compared to other valve types, with its compact dimensions offers the advantages of lightweight, easy installation and cost effectiveness.
- Head loss is at minimum level through the double shaft design of FAF Valve.
- The inner and outer surfaces of valve body are coated with electrostatic fusion bonded epoxy (FBE) / oven baked powder epoxy coating. Smooth operation and longer life is maintained in tough conditions.
- Higher coating thicknesses can be applied upon request
- Up to DN 300 (inclusive) sizes are supplied with hand lever as default DN 350 (inclusive) and above are supplied with gear box as default.
- Electrical or Pneumatic actuators directly fit on valve top flange (ISO 5211)
- No need for any additional intermediary parts.
- Can be installed in any desired position
- Maintenance-free
- Four flange mounting semi-lugs ensure correct valve location when installing
- The valve body and disc are accurately machined which results in low operating torque and long service life and reliability.

Temperature

- +130 °C (EPDM)
- +100 °C (NBR)
- +220 °C (VITON)

PRODUCTION STANDARDS

DN40 → DN600
PN 6-10-16 CLASS 150

Design	EN 593
Connection	Wafer Type ISO 7005-1 EN 1092-1
Face to Face	EN 558 Series 20
Marking	EN 19
Tests	EN 12266-1
Corrosion Protection	Electrostatic Powder Epoxy

Product Description

FAF3500 Wafer Type Butterfly Valve is a quarter-turn rotational motion valve, which is used to stop, regulate and start flow. 90° rotation of the handle provides a complete closure or opening of the valve.

Versions

- Standard version with hand wheel
- With gearbox + FAF3700
- With pneumatic actuator + FAF3750
- With electrical quarter turn actuator + FAF3770
- With electrical multi turn actuator + FAF3780
- Custom production for specific orders

Accessories

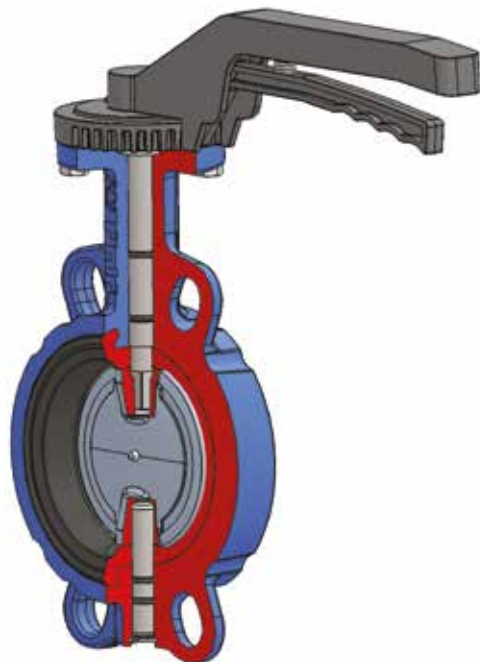
- T-key + FAF7250
- Extension spindle, ST steel + FAF3790
- Surface box, cast iron + FAF3790K
- Flange adaptors + FAF3960
- Position indicator

Scope of Application

- Chamber installation
- Installation in plants
- Pipelines
- Water treatment plants
- Pumping stations
- Tanks
- Seawater applications
- Power plants (cooling water pipelines)
- Industry

BUTTERFLY VALVE - WAFER

FAF 3500



MATERIAL SELECTION

Body	EN-GJL-250 Cast Iron / GG25
	EN-GJS-400 Ductile Iron / GGG40
Disc	1.4301 - AISI 304 Stainless Steel
	1.4401 - AISI 316 Stainless Steel
	EN-GJS - 400 Ductile Iron / GGG40 Nickel Coated
	Aluminium Bronze PTFE
Stem	1.4021 - AISI 420 Stainless Steel
	1.4301 - AISI 304 Stainless Steel (Optional)
	1.4401 - AISI 316 Stainless Steel (Optional)
Sealing	EPDM (NBR, VITON, NEOPREN, PTFE - optional)
Gearbox	EN GJL 250 (DN 350 and above)

PRODUCTS MODEL CODES

FAF 3500	SS 304 DISC - EPDM SEALING
FAF 3501	SS 304 DISC - NBR SEALING
FAF 3502	SS 304 DISC - VITON SEALING
FAF 3503	SS 304 DISC - NEOPREN SEALING
FAF 3550	NICKEL DISC - EPDM SEALING
FAF 3551	NICKEL DISC - NBR SEALING
FAF 3552	NICKEL DISC - VITON SEALING
FAF 3553	NICKEL DISC - NEOPREN SEALING
FAF 3560	SS 316 DISC - EPDM SEALING
FAF 3561	SS 316 DISC - NBR SEALING
FAF 3562	SS 316 DISC - VITON SEALING
FAF 3563	SS 316 DISC - NEOPREN SEALING
FAF 3570	ALU. BRONZR DISC - EPDM SEALING
FAF 3571	ALU. BRONZR DISC - NBR SEALING
FAF 3572	ALU. BRONZR DISC - VITON SEALING
FAF 3573	ALU. BRONZR DISC - NEOPREN SEALING

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

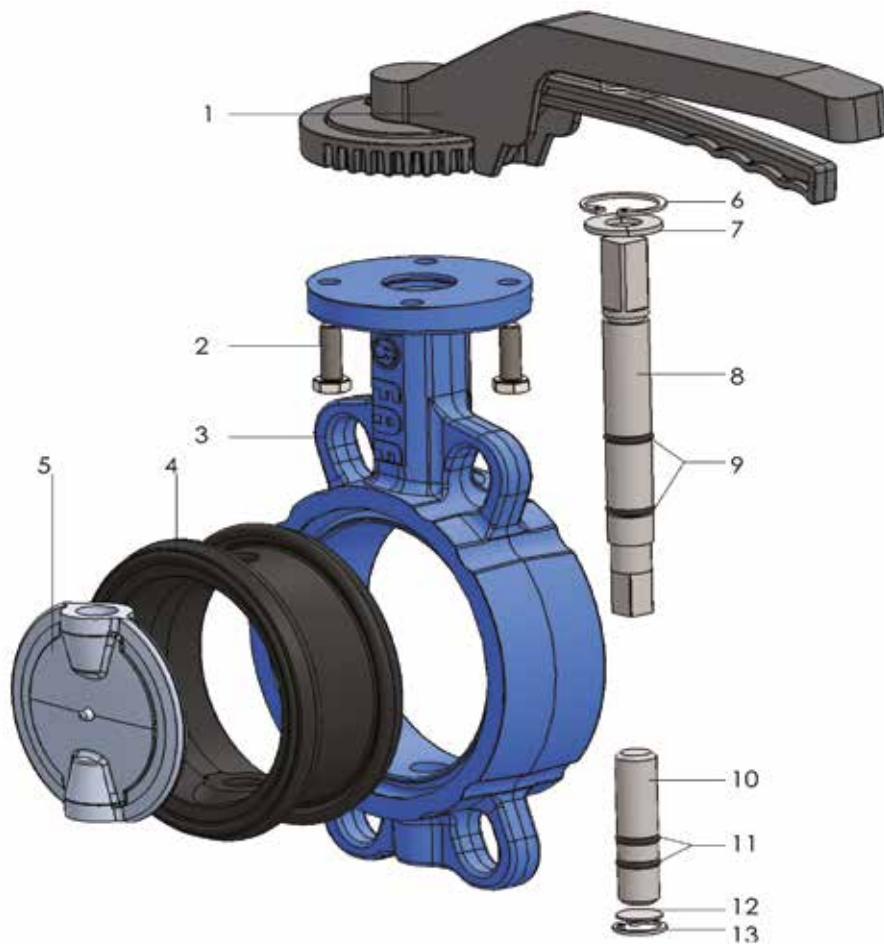
Note

- For proper use and safety precautions please follow the installation and operating instructions.

BUTTERFLY VALVE - WAFER

FAF 3500

Material List

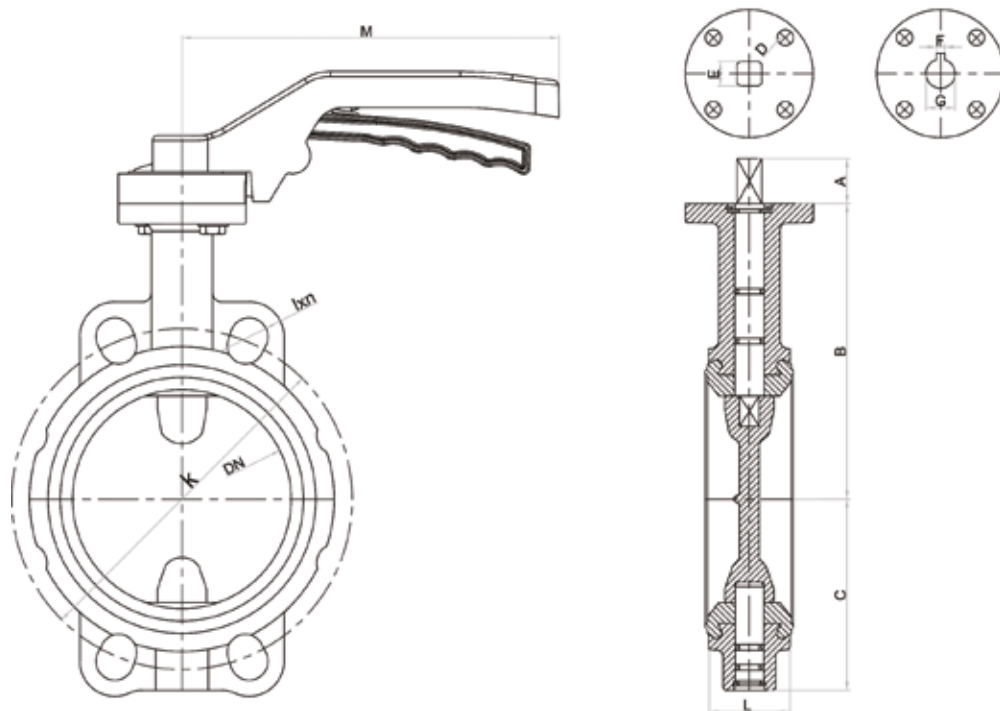


NO	ITEM	MATERIALS
1	HANDLEVER	ALUMINUM
2	BOLTS	DIN 933
3	BODY	EN GJL 250 GG 25 EN GJS 400 GGG 40 (Optional)
4	GASKET	EPDM / NBR / VITON / NEOPREN
5	DISC	AISI 304, AISI 316 EN GJS 400 NICKEL COATED
6	RETAINING RING	DIN 472
7	WASHER	STEEL 1.0254
8	DRIVE SHAFT	STAINLESS STEEL 1.4021
9	O RING	NBR, EPDM
10	CENTERING SHAFT	STAINLESS STEEL 1.4021
11	O RING	NBR, EPDM
12	WASHER	STAINLESS STEEL 1.4016
13	RETAINING RING	DIN 472

BUTTERFLY VALVE - WAFER

FAF 3500

Technical Details & Drawing, Dimensions



DN (mm)	A	B	C	D	PN 6		PN 10		PN 16		E	F	G	M	L	WEIGHT (kg)
					k	Ølxn	k	Ølxn	k	Ølxn						
40	30	122	56	50	100	14x4	110	19x4	110	19x4	11x11	-	-	190	33	2,3
50	30	127,5	61	50	110	14x4	125	19x4	125	19x4	11x11	-	-	190	43	2,8
65	30	134	70	50	130	14x4	145	19x4	145	19x4	11x11	-	-	190	46	3,5
80	30	157	92	50	150	19x4	160	19x8	160	19x8	11x11	-	-	190	46	3,9
100	30	167	101	70	170	19x4	180	19x8	180	19x8	14x14	-	-	255	52	6
125	30	180	116	70	200	19x8	210	19x8	210	19x8	14x14	-	-	255	56	7,4
150	30	203	131	70	225	19x8	240	23x8	240	23x8	17x17	-	-	255	56	9
200	30	228	164	102	280	19x8	295	23x12	295	23x12	17x17	-	-	355	60	15,1
250	30	266	197	102	335	19x12	355	28x12	355	28x12	22x22	-	-	355	68	21,9
300	30	291	223	102	395	23x12	410	28x12	410	28x12	22x22	-	-	355	78	33,3
350	45	370	282	125	-	-	-	-	470	28x16	22x22	-	-	-	78	56,7
400	45	400	310	140	-	-	-	-	525	31x16	27x27	-	-	-	102	79,3
450	50	420	329	140	-	-	-	-	585	31x20	27x27	-	-	-	114	98,6
500	50	480	390	165	-	-	-	-	650	34x20	-	14	48	-	127	150
600	50	565	455	165	-	-	-	-	770	37x20	-	14	48	-	154	193

BUTTERFLY VALVE - WAFER

FAF 3500

Butterfly Valve Maintenance Instructions

Dismounting

Position the valve flat with the disc in the closed position. Loosen the taper pin from the valve disc using a hammer and punch. Note: Punch should be of same size or larger diameter as small end of taper pin to avoid mushrooming of taper pin. Remove taper pin from disc. Extract the valve shaft from the body using a twisting motion. Remove the valve disc from body making sure not to damage the seat or disc sealing edge. Cartridge seat removal can be accomplished from either direction by applying pressure evenly on one face to push the seat through the body. If the valve is of dead end service design, remove setscrews around periphery of body extending into seat prior to seat removal. Remove shaft bushings from body as required.

Inspection and cleaning

The following periodic preventative maintenance practices are recommended:
Operate the valve from full open to full closed to assure operability. Check flange bolting for evidence of loosening and correct as needed. Inspect the valve and surrounding area for previous or existing leakage at flange faces or shaft connections. Check piping and/or wiring to actuators and related equipment for looseness and correct as needed.

Mounting

Remove any protective flange covers from the valve.

Inspect the valve to be certain the waterway is free from dirt and foreign matter.

Be certain the adjoining pipeline is free from any foreign material such as rust and pipe scale or welding slag that could damage the seat and disc sealing surfaces.

Any actuator should be mounted on the valve prior to installation to facilitate proper alignment of the disc in the valve seat.

Check the valve identification tag for materials, and operating pressure to be sure they are correct for the application.

Check the flange bolts or studs for proper size, threading and length.

Thoroughly clean all parts. Inspect components for any defects.

Apply a small amount of silicone grease to the inside surfaces of the body, including the upper and lower shaft holes.

Insert the shaft bushings into the body being careful not to allow intrusion into the body seat bore.

Install the seat into the center of the body, making sure the shaft holes in the seat line up with the holes in the body.

Completely coat the inside surfaces of the seat with silicone grease.

Carefully push the disc into the seat in the open position (90 degrees to the body.) Line up the shaft holes of the disc as close as possible with the shaft holes in the seat body.

Insert the shaft through the body and disc, use a twisting motion to align the keyway parallel with the disc.

Insert taper pin(s) into the disc and set with two or three sharp blows.

Wipe dust shield o-ring with silicone grease and place over the shaft into the top of the body.

If the valve is of dead end service design, insert setscrews through the body into the seat.

Associated Products for the Butterfly Valve Range



2300
CHECK VALVE
WAFER SWING



2350
CHECK VALVE
DUAL



2370
CHECK VALVE DISC



2500
Y-TYPE STRAINER



3700
GEARBOX



3770
ELECTRIC ACTUATOR



3960
FLANGE ADAPTOR



3970
COUPLING



3900
DISMANTLING JOINT



5000
RUBBER
EXPANSION JOINT

BUTTERFLY VALVE - SUPERVISORY

FAF 3590



Features

- FAF3590 Supervisory Switch Butterfly Valve is installed on up-right axis to the pipeline, quarter turn (90 degree) operating disc, maintains 100% tight sealing in either direction through the EPDM robed into inner walls of the valve body.
- Head loss is at minimum level through the double shaft design.
- One-piece disc/stem design. The disc edge is spherically machined and hand polished to produce a bubble-tight shutoff, minimum torque, and longer seat life.
- The disc/stem design inherently provides complete protection from particle entrapment and bacterial decay, protection that is required for sanitary performance.
- Primary and secondary seals prevent line media from coming in contact with the stem or body. Primary Seal is achieved by an interference fit of the molded seat flat with the disc hub. Secondary Seal is created because the stem diameter is greater than the diameter of the stem hole.
- The valves tongue and groove seat design lowers torque and provides complete isolation of flowing media from the body. The seat also features a molded O-ring which eliminates the use of flange gaskets.
- Non-corrosive, heavy duty acetal bushing absorbs actuator side thrust.
- The position of the valve can be monitored with the use of the on-board tracking and electric circuitry This avoids damage that could be caused by the valve in a closed position during a possible fire.
- The valve can be controlled with lower torques through the gearbox mounted.
- It can be used as a line shutoff valve or as a regional control valve.
- Inner and outer surfaces are coated with minimum 250 microns fusion bonded epoxy.

Temperature

- -20°C - +110°C

PRODUCTION STANDARDS

DN65 → DN250
300PSI 20 Bar

Design	EN 593
Connection	Wafer Type ISO 7005-1 EN 1092-1
Face to Face	EN 558 Series 20 / ISO 5752 Series 20
Marking	EN 19
Tests	EN 12266-1
Corrosion Protection	Electrostatic Powder Epoxy

Product Description

FAF3590 Wafer Type Butterfly Valve Wafer Style Supervisory Switch Butterfly Valves are indicating type valves designed for use in fire protection systems where a visual indication is required as to whether the valve is open or closed. They can be used as system, sectional, and pump water control valves.

Versions

- Standard version with hand wheel
- Prepared for electrical actuator
- With electrical actuator
- With gearbox
- With pneumatic actuator
- Custom production for specific orders

Accessories

- T-key
- Extension spindle, ST steel
- Surface box, cast iron
- Position indicator

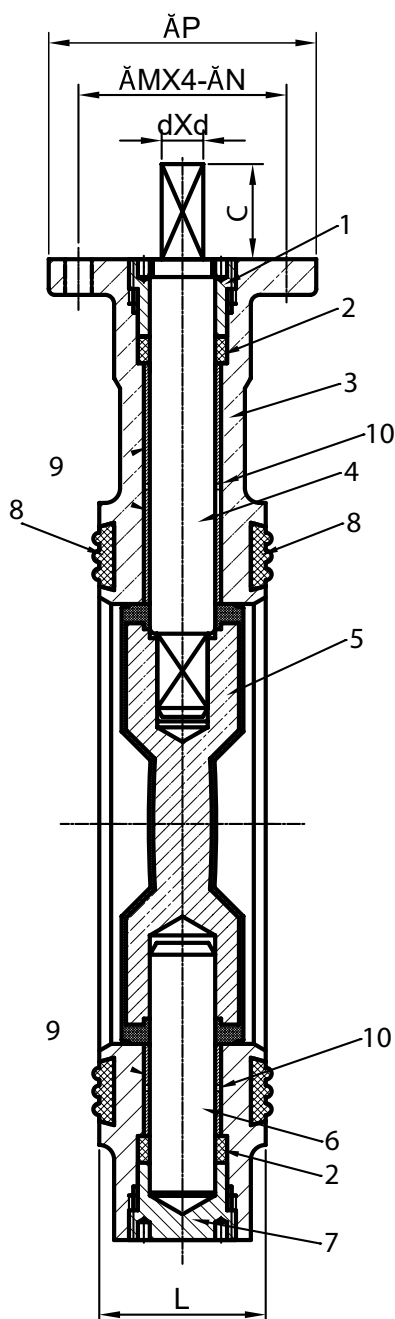
Scope of Application

- Chamber installation
- Installation in plants
- Pipelines
- Water treatment plants
- Pumping stations
- Tanks
- Seawater applications
- Power plants (cooling water pipelines)
- Industry

BUTTERFLY VALVE - SUPERVISORY

FAF 3590

Material List



NO	ITEM	MATERIALS
1	Drive Shaft Nut	Steel
2	O-ring	EPDM
3	Body	Ductile Iron
4	Drive Shaft	SS416
5	Disc	Ductile Iron+EPDM
6	Centering Shaft	SS416
7	Centering Shaft Nut	Steel
8	Bearing	PTFE
9	O-ring	EPDM
10	Signal Box	Ductile Iron

PRODUCTS MODEL CODES

FAF 3590	SUPERVISORY SWITCH - WAFER END
FAF 3599	SUPERVISORY SWITCH - GROOVED END

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
20	30	22

100% of the valves are subjected to hydrostatic tests at FAF facilities.

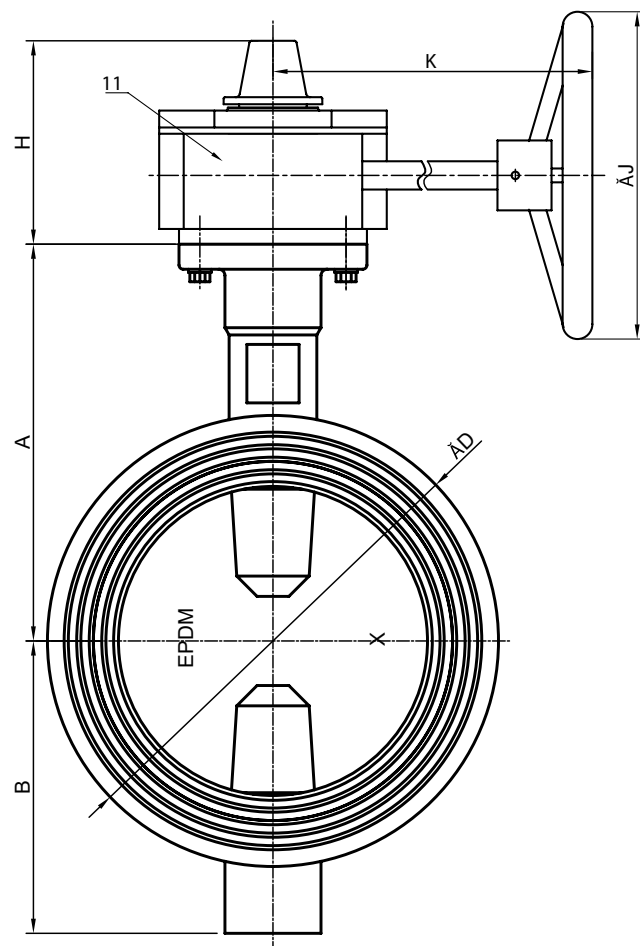
Note

- For proper use and safety precautions please follow the installation and operating instructions.

BUTTERFLY VALVE - SUPERVISORY

FAF 3590

Technical Details & Drawing, Dimensions



Wafer Type Butterfly Valve Supervisory Switch Dimensions (mm)												
Inch / DN	A	B	C	D	H	K	J	P	M	N	d	L
2½" - DN65	125	95	32	112	111	218	152	90	70	9	10	44,2
3" - DN80	140	100	32	120	111	218	152	90	70	9	11	45,3
4" - DN100	160	100	32	165	111	218	152	90	70	9	14	52
5" - DN125	170	125	32	182	111	218	152	90	70	9	14	54,4
6" - DN150	190	140	32	216	111	218	200	90	70	9	16	55,8
8" - DN200	230	175	32	260	126	232	300	125	102	12	19	60,5
10" - DN250	260	200	45	320	126	232	300	125	102	12	22	66,5

BUTTERFLY VALVE - LUG TYPE

FAF 3600



Features

- Equipped with various disc materials and can be used in various flow types and different applications with the EPDM, NBR and VITON seat options.
- Compared to other valve types, with its compact dimensions offers the advantages of lightweight, easy installation and cost effectiveness.
- Head loss is at minimum level through the double shaft design of FAF Valve.
- The inner and outer surfaces of valve body are coated with electrostatic fusion bonded epoxy (FBE) / oven baked powder epoxy coating. Smooth operation and longer life is maintained in tough conditions.
- Up to DN 300 (inclusive) sizes are supplied with hand lever as default DN 350 (inclusive) and above are supplied with gear box as default.
- Electrical or pneumatic actuators directly fit on valve top flange. (ISO 5211)
- No need for any additional intermediary parts.
- In addition to its use as an on-off valve, can also be used for the purpose of proportional flow control.
- Can be installed in any desired position.
- Maintenance-free.
- The valve body and disc are accurately machined which results in low operating torque and long service life and reliability.

Temperature

- +130 °C (EPDM)
- +100 °C (NBR)
- +220 °C (VITON)

PRODUCTION STANDARDS

DN40 → DN400
PN 16

Design	EN 593
Connection	Lug Type EN 1092-2 / ISO 7005-2
Face to Face	EN 558 Series 20 / ISO 5752 Series 20
Marking	EN 19
Tests	EN 12266-1
Corrosion Protection	Electrostatic Powder Epoxy

Product Description

FAF3600 Lug Type Butterfly Valve is a quarter-turn rotational motion valve, which is used to stop, regulate and start flow. 90° rotation of the handle provides a complete closure or opening of the valve.

Versions

- Standard version with hand wheel
- With gearbox + FAF3700
- With pneumatic actuator + FAF3750
- With electrical quarter turn actuator + FAF3770
- With electrical multi turn actuator + FAF3780
- Custom production for specific orders

Accessories

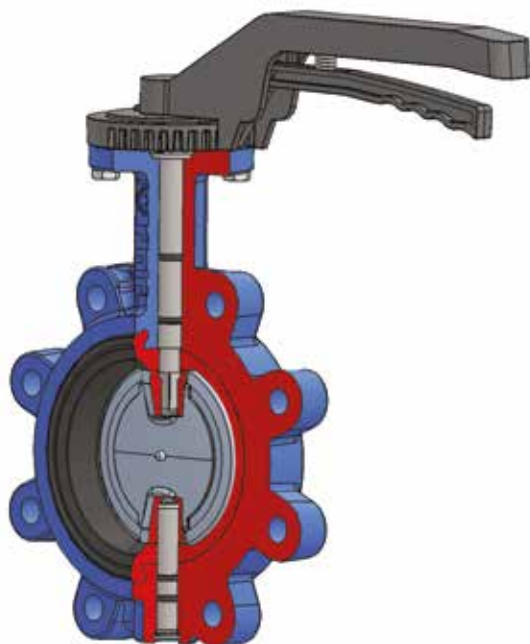
- T-key + FAF7250
- Extension spindle, ST steel + FAF3790
- Surface box, cast iron + FAF3790K
- Flange adaptors + FAF3960
- Position indicator

Scope of Application

- Chamber installation
- Installation in plants
- Pipelines
- Water treatment plants
- Pumping stations
- Tanks
- Seawater applications
- Power plants (cooling water pipelines)
- Industry

BUTTERFLY VALVE - LUG TYPE

FAF 3600



MATERIAL SELECTION

Body	EN-GJL-250 Cast Iron / GG25
	EN-GJS-400 Ductile Iron / GGG40
Disc	1.4301 - AISI 304 Stainless Steel
	1.4401 - AISI 316 Stainless Steel
	EN-GJS - 400 Ductile Iron / GGG40 Nickel Coated
	Aluminium Bronze PTFE
Stem	1.4021 - AISI 420 Stainless Steel
	1.4301 - AISI 304 Stainless Steel (Optional)
	1.4401 - AISI 316 Stainless Steel (Optional)
Sealing	EPDM (NBR, VITON, NEOPREN, PTFE - optional)
Gearbox	EN GJL 250 (DN 350 and above)

PRODUCTS MODEL CODES

FAF 3600	SS 304 DISC - EPDM SEALING
FAF 3601	SS 304 DISC - NBR SEALING
FAF 3602	SS 304 DISC - VITON SEALING
FAF 3603	SS 304 DISC - NEOPREN SEALING
FAF 3650	NICKEL DISC - EPDM SEALING
FAF 3651	NICKEL DISC - NBR SEALING
FAF 3652	NICKEL DISC - VITON SEALING
FAF 3653	NICKEL DISC - NEOPREN SEALING
FAF 3660	SS 316 DISC - EPDM SEALING
FAF 3661	SS 316 DISC - NBR SEALING
FAF 3662	SS 316 DISC - VITON SEALING
FAF 3663	SS 316 DISC - NEOPREN SEALING
FAF 3670	ALU. BRONZR DISC - EPDM SEALING
FAF 3671	ALU. BRONZR DISC - NBR SEALING
FAF 3672	ALU. BRONZR DISC - VITON SEALING
FAF 3673	ALU. BRONZR DISC - NEOPREN SEALING

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

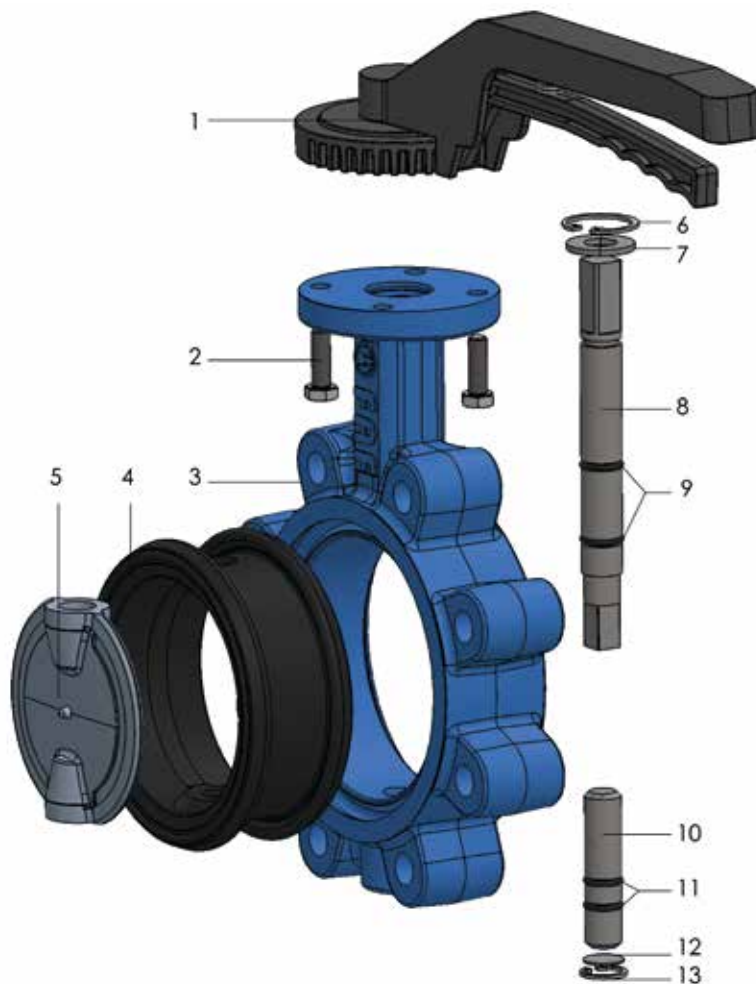
Note

- For proper use and safety precautions please follow the installation and operating instructions.

BUTTERFLY VALVE - LUG TYPE

FAF 3600

Material List

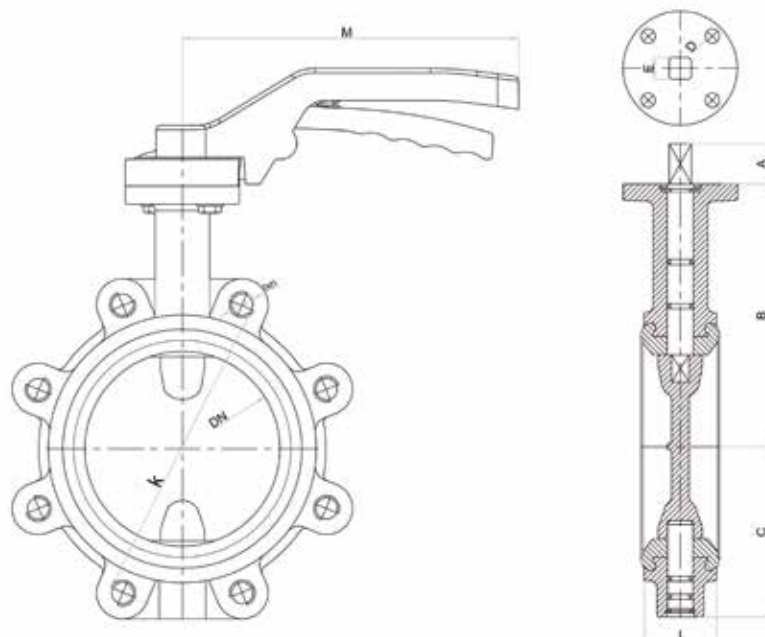


NO	ITEM	MATERIALS
1	HANDLEVER	ALUMINUM
2	BOLTS	DIN 933
3	BODY	EN GJL 250 GG 25 EN GJS 400 GGG 40 (Optional)
4	GASKET	EPDM / NBR / VITON / NEOPREN
5	DISC	AISI 304, AISI 316 EN GJS 400 NICKEL COATED
6	RETAINING RING	DIN 472
7	WASHER	STEEL 1.0254
8	DRIVE SHAFT	STAINLESS STEEL 1.4021
9	O RING	NBR, EPDM
10	CENTERING SHAFT	STAINLESS STEEL 1.4021
11	O RING	NBR, EPDM
12	WASHER	STAINLESS STEEL 1.4016
13	RETAINING RING	DIN 472

BUTTERFLY VALVE - LUG TYPE

FAF 3600

Technical Details & Drawing, Dimensions



DN (mm)	A	B	C	D	k	Øl x n	E	K	L	WEIGHT (kg)
40	30	122	56	50	110	M16x4	11x11	190	33	2,9
50	30	127,5	61	50	125	M16x4	11x11	190	43	3,6
65	30	134	70	50	145	M16x4	11x11	190	46	4,1
80	30	157	92	50	160	M16x8	11x11	190	46	5,1
100	30	167	101	70	180	M16x8	14x14	255	52	7,4
125	30	180	116	70	210	M16x8	14x14	255	56	9,3
150	30	203	131	70	240	M20x8	17x17	255	56	11,1
200	30	228	164	102	295	M20x12	17x17	355	60	18,8
250	30	266	197	102	355	M24x12	22x22	355	68	29,1
300	30	291	223	102	410	M24x12	22x22	355	78	41,5
350	45	370	282	125	470	M24x16	22x22	-	78	80
400	45	400	310	140	525	M27x16	27x27	-	102	120

Associated Products for the Butterfly Valve Range



2300
CHECK VALVE
WAFFER SWING



2350
CHECK VALVE
DUAL



2370
CHECK VALVE DISC



2500
Y-TYPE STRAINER



3700
GEARBOX



3770
ELECTRIC ACTUATOR



3960
FLANGE ADAPTOR



3970
COUPLING



3900
DISMANTLING JOINT



5000
RUBBER
EXPANSION JOINT

GEARBOX

FAF3700



Features

- Has cast iron body; stem and sealing seat are made of stainless steel.
- Lowering the minimum torque force allows the opening and closing of the valve by single operator.
- While the open-close torque of the valve with gearbox decreases, the number of turns needed to open-close the valve increase.
- Attention should be paid on the connection dimensions and gearbox ratio when selecting an actuator for the valve.
- The DN dimensions and gearbox types mentioned on the table are given according to the general applications.
- It is advised to receive support from FAF Valve technical staff while selecting gearboxes.
- Most of the valves require an operator torque that can only be achieve with a gearbox. There are part turn and quart turn manual actuators.
- Manual actuation is usually drove by handwheels. Valves whose access location makes difficult to operate on them can be drove by chain wheels.
- For security, the driver can be out of the gearbox spigot.
- Only authorized operators who bring the handwheel or wrench nut with them can operate the valve.

PRODUCTION STANDARDS

DN40 → DN400
PN 10-16

Design	EN ISO 5211
Marking	EN ISO 5211
Tests	EN ISO 5211
Corrosion Protection	Electrostatic Powder Epoxy

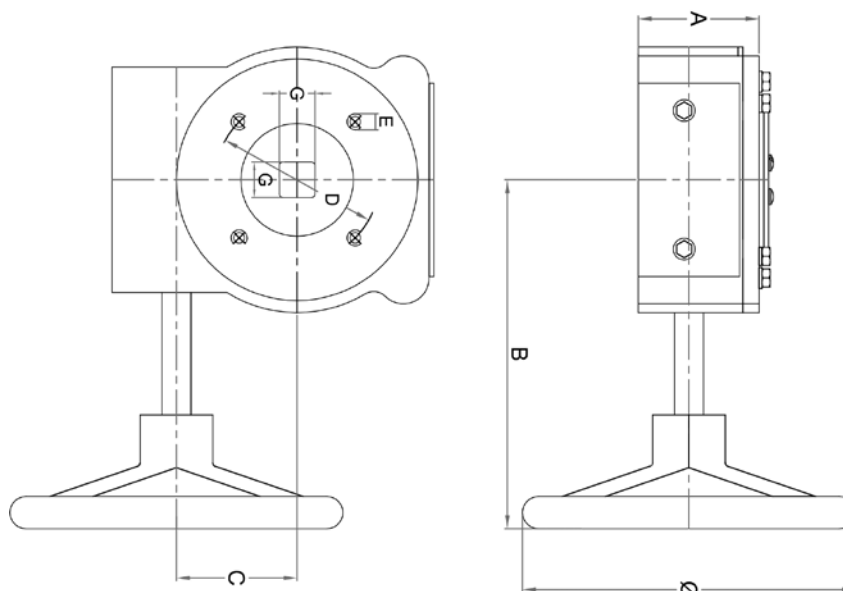
Product Description

FAF3700 Gearbox is used for decreasing the torque needed to rotate the stem through the help of gears with ratio. Gearboxes are designed for FAF Butterfly Valves

Scope of Application

- Lug & wafer type butterfly valves
- Double eccentric butterfly valve
- Concentric butterfly valves
- Gate valves
- Ball valves

Technical Details & Drawing, Dimensions



DN (mm)	Ø	A	B	C	EN ISO 5211			GxG
					Flange Type	D	E	
40	190	60	160	47	F 07	70	M8	11x11
50								
65								
80								
100	190	65	165	45	F 07	70	M8	14x14
125								
150	190	65	165	45	F 07	70	M8	17x17
200	295	70	235	67	F 10	102	M10	17x17
250	295	70	235	67	F 10	102	M10	22x22
300	295	90	230	70	F 10	102	M10	22x22
350	295	90	230	70	F 12	125	M12	22x22
400	390	110	240	120	F 14	140	M16	27x27

BUTTERFLY VALVE DOUBLE ECCENTRIC FLANGED FAF 3800



Features

- Double Eccentric structure ensures low operating torques with zero leakage performance.
- Inner and outer surfaces of the valve are coated with average 250 microns thickness of fusion bonded epoxy. (FBE) min 300micron available upon request.
- Higher thicknesses are available upon request.
- Low moments are obtained by decreasing the friction through self-lubricating bushings.
- Can bear high stretching stresses on the pipeline through the ductile iron body and disc
- High impact resistance
- Reduces the pressure loss through the disc designed in accordance with the direction of flow
- Pressure loss is at minimum level by double shaft design
- Sealing gaskets made of EPDM (default), NBR or VITON supplied according to operating conditions and demand can be disassembled and replaced easily in field conditions
- With the o-rings on the bearing bushings, disc pin holes are protected against corrosion (Dry shaft)
- Retaining ring is assembled to the disc with imbus bolts, the disc is protected against corrosion by placing o-rings under the bolts.
- Through the gearbox assembled on top flange, it maintains opening/closing the valve with very low torques.
- Lifting lugs and feet ease the weight balance during transport and installation.
- With the stainless steel welding, in the valve will have higher sealing resistance.

Temperature

- +130 °C EPDM
- +100 °C NBR
- +180 °C VITON

PRODUCTION STANDARDS

DN100 → DN2000
PN 10-16-25

Design	EN 593
Connection	EN 1092-2 ISO 7005-2 - Flanged
End Connection	EN 558 Series 14 DIN 3202 F4
Marking	EN 19
Tests	EN 12266-1
Corrosion Protection	Electrostatic Powder Epoxy WRAS Approved (Optional)

Product Description

FAF3800 Double Eccentric Flanged Butterfly Valve; operating through the disc rotating with a quarter turn (90 degrees), ensures 100% sealing with the sealing "T" section ring fixed to the outer diameter of the disc fully facing the seat surface inside the body perimeter made of stainless steel welding. The WRAS approved epoxy coating is suitable for potable water systems.

Versions

- Standard version with gearbox (IP67-optional) and handwheel
- Gearbox ready to install actuator
- With electrical actuator
- Custom production for specific orders

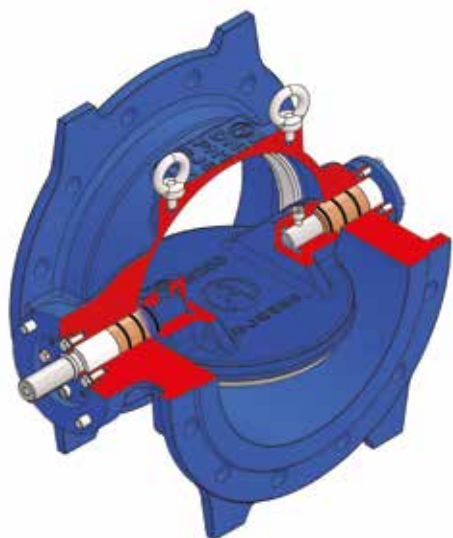
Accessories

- Handwheel
- T-key + FAF7250
- Extension spindle, ST steel + FAF3790
- Surface box, cast iron + FAF3790K
- Flange adaptors + FAF3960
- Position indicator
- Dismantling joint + FAF3900
- Limit switch

Scope of Application

- Chamber installation
- Installation in plants
- Pipelines
- Water treatment plants
- Pumping stations
- Tanks and reservoirs
- Seawater applications
- Power plants (cooling water pipelines)
- Industry

BUTTERFLY VALVE DOUBLE ECCENTRIC FLANGED FAF 3800



MATERIAL SELECTION

Body	EN-GJS-500 Ductile Iron / GGG50
Disc	EN-GJS-500 Ductile Iron / GGG50
Stem	1.4021 - AISI 420 Stainless Steel (Default) 1.4301 - AISI 304 Stainless Steel (Optional) 1.4401 - AISI 316 Stainless Steel (Optional)
Sealing	EPDM (NBR, VITON Optional)
Gearbox	EN GJL 250 - Enclosure Class - IP67
Retaining Ring	ST.37 Steel (Default) 1.4301 - AISI 304 Stainless Steel (Optional) 1.4401 - AISI 316 Stainless Steel (Optional)

Standards

Criteria	Old Standards	New Standards
Design	EN 11341, DIN 3354, BS 5155	EN 593
End Connection	DIN 3202, BS 5155	EN 558-1 Series 14
Flange	DIN 2501, BS 4504	ISO 7005, EN 1092
Test	DIN 3230	EN 12266, EN 1074
Casting	GGG 40 - GGG 50	EN GJS 400-15, EN GJS 500-7
Stainless Steel	X20Cr13, AISI 420-AISI 304-AISI 316	1.4021-1.4301-1.4401

General Information About Double Eccentric Flanged Butterfly Valves

- Valve sealing rate: EN 12266-1 / 2. Leakage is not allowed.
- Valve is designed to be leakproof and with anti blow out shaft system when driving component (lever, gear box, actuator) are removed.
- High flow rates are critical for Double Eccentric Flanged Butterfly Valves. Thus the flow rate of the network must conform to the following table.

PS BAR	Highest Flow Rate (m/s)	
	Liquid Fluid	Gas Fluid
up to 6	2,5	25
6<PS≤10	3	30
10<PS≤16	4	35
PS>16	5	40

VALVE TEST PRESSURE (Bar)		
MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6
25	37,5	27,5
40	60	44

100% of the valves are subjected to hydrostatic tests at FAF facilities.

PRODUCTS MODEL CODES

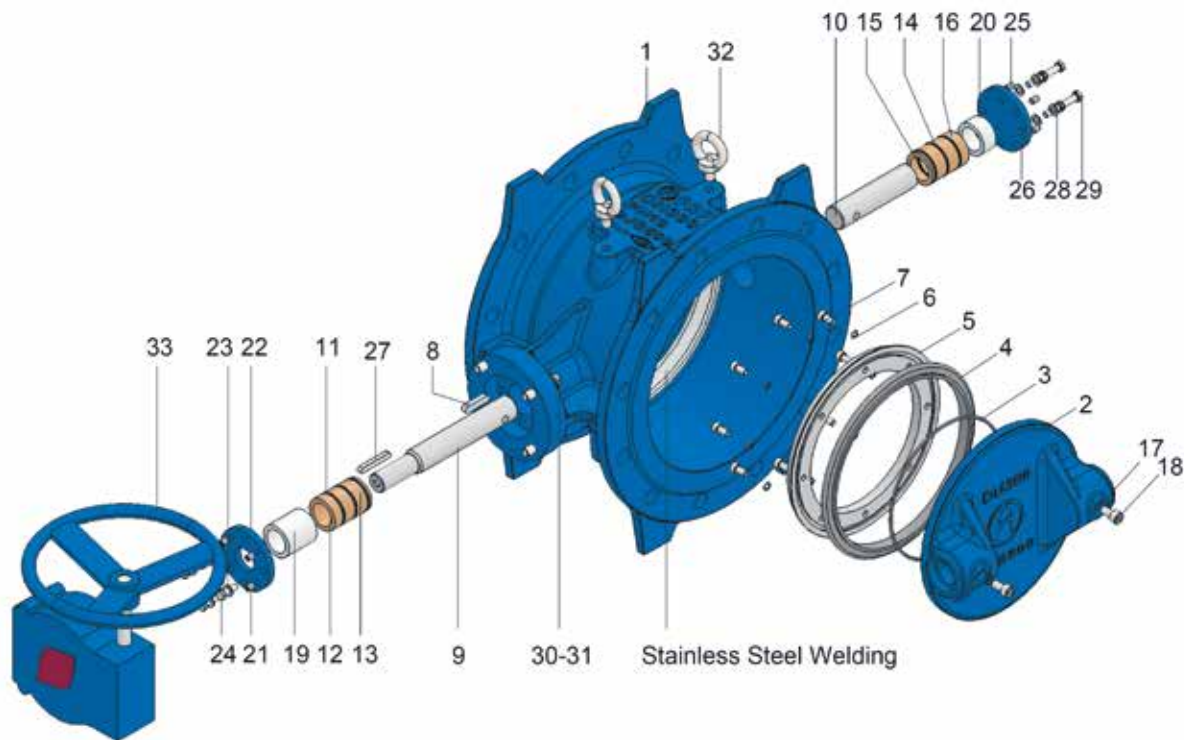
FAF3800	BUTTERFLY VALVE - PN16
FAF3810	BUTTERFLY VALVE - PN10
FAF3825	BUTTERFLY VALVE - PN25

Note

- For proper use and safety precautions please follow the installation and operating instructions.

BUTTERFLY VALVE DOUBLE ECCENTRIC FLANGED FAF 3800

Material List

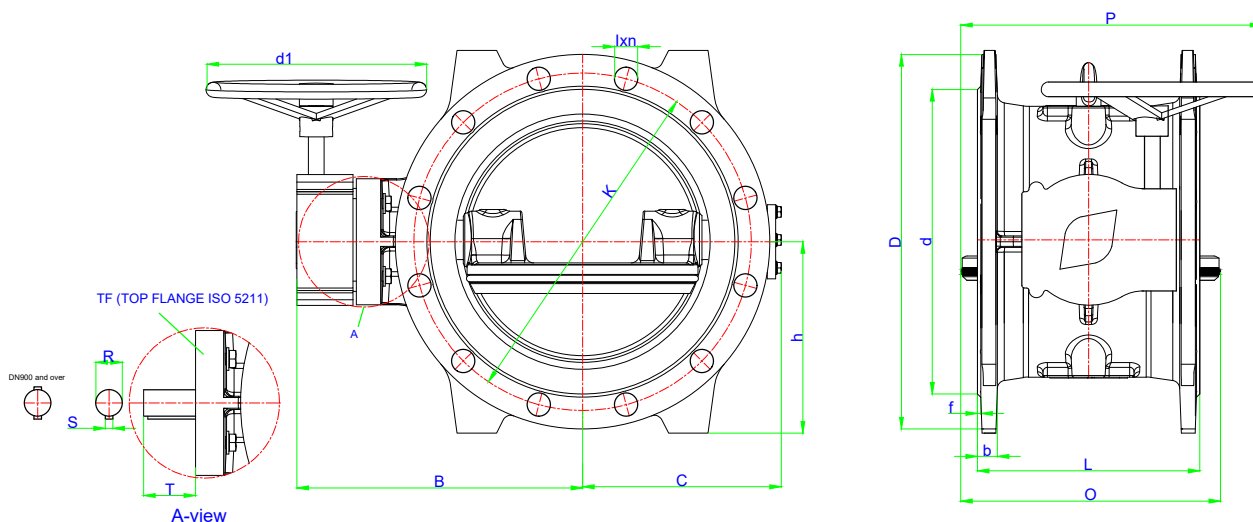


NO	ITEM	MATERIALS
1	BODY	EN GJS 500
2	DISC	EN GJS 500
3	O-RING	NBR / EPDM
4	SEALING RING	EPDM / NBR /VITON
5	RETAINING RING	STEEL ST 37
6	O RING	NBR / EPDM
7	IMBUS BOLT	STAINLESS STEEL A2
8	KEY	STEEL 1.0254
9	MAIN SHAFT	STAINLESS STEEL 1.4021
10	SUPPORT SHAFT	STAINLESS STEEL 1.4021
11	O-RING	NBR / EPDM
12	O-RING	NBR / EPDM
13	BUSHING	BRONZE
14	O-RING	NBR / EPDM
15	O-RING	NBR / EPDM
16	SUPPORT SHAFT BUSHING	BRONZE

NO	ITEM	MATERIALS
17	O RING	NBR / EPDM
18	IMBUS BOLT	STAINLESS STEEL A2
19	MAIN SHAFT BEARING	DELIN
20	SUPPORT SHAFT BEARING	DELIN
21	SETSCREW	STAINLESS STEEL A2
22	TOP COVER	STEEL 1.0254
23	WASHER	STAINLESS STEEL A2
24	HEXAGON BOLTS	STAINLESS STEEL A2
25	SETSCREW	STAINLESS STEEL A2
26	BOTTOM COVER	STEEL 1.0254
27	KEY	STEEL 1.0254
28	WASHER	STAINLESS STEEL
29	HEXAGON BOLTS	STAINLESS STEEL A2
30	WASHER	STAINLESS STEEL
31	HEXAGON BOLTS	STAINLESS STEEL A2
32	LIFTING LUGS	GALVANIZED STEEL
33	GEAR BOX	EN GJL 250 - ENCLOSURE CLASS (IP68 OPTIONAL)

BUTTERFLY VALVE DOUBLE ECCENTRIC FLANGED FAF 3800

Technical Details & Drawing, Dimensions



DIMENSIONS - PN16																	RATINGS			
DN (mm)	D	K	d	$\varnothing l_{xn}$	f	b	L	O	B	C	h	d1	P	R	S	T	TOP FL	VALVE TORQUE * (Nm)	Kv m ³ / h	Weight (kg)
100	220	180	156	19x8	3	19	190	101	183	119	110	100	141	21,7	8	45	F10	90	600	19
150	285	240	211	23x8	3	19	210	148	225	150	145	100	227	21,7	8	45	F10	240	1400	29
200	340	295	266	23x12	4	20	230	200	275	189	172	250	278	21,7	8	45	F10	260	2500	46
250	405	355	319	28x12	4	22	250	248	297	220	205	350	366	27,8	8	55	F12	280	4200	64
300	460	410	370	28x12	4	24,5	270	282	342	242	232	500	458	27,8	8	55	F12	750	5700	87
350	520	470	429	28x16	4	26,5	290	339	370	264	280	600	548	35,7	10	65	F14	1250	7800	132
400	580	525	480	31x16	4	28	310	385	431	310	292	700	634	41,7	12	65	F14	1760	13000	158
450	640	585	548	31x20	4	30	330	432	462	340	322	700	668	49,6	16	80	F16	2500	15000	217
500	715	650	609	34x20	4	31,5	350	481	524	379	360	700	641	59,6	18	80	F16	3200	19000	262
600	840	770	720	37x20	5	36	390	576	589	437	422	600	715	59,6	18	110	F25	5100	28000	370
700	910	840	794	37x24	5	39,5	430	675	663	480	458	500	724	79,7	22	110	F25	7200	38000	515
800	1025	950	901	41x24	5	43	470	780	728	548	517	500	776	79,7	22	110	F25	12000	50000	636
900	1125	1050	1001	41x28	5	46,5	510	872	845	614	570	500	940	99,8	28	130	F30	19000	67000	1025
1000	1255	1170	1112	44x28	5	50	550	970	905	665	634	600	989	119,7	32	130	F30	24000	90000	1351
1200	1485	1390	1328	50x32	5	57	630	1157	1025	800	750	600	1322	119,7	32	165	F35	26000	130000	1970

*Valve torque safety factor is not included

BUTTERFLY VALVE DOUBLE ECCENTRIC FLANGED FAF 3800



DIMENSIONS - PN10																		RATINGS		
DN (mm)	D	K	d	Øl x n	f	b	L	O	B	C	h	d1	P	R	S	T	TOP FL	VALVE TORQUE * (Nm)	Kv m³ / h	Weight (kg)
100	220	180	156	19x8	3	19	190	101	183	119	110	100	141	21,7	8	45	F10	60	600	19
150	285	240	211	23x8	3	19	210	148	215	150	145	100	213	21,7	8	45	F10	200	1400	29
200	340	295	266	23x8	3	20	230	200	265	189	172	200	239	21,7	8	45	F10	230	2500	46
250	400	350	319	23x12	3	22	250	248	290	220	205	250	302	27,8	8	55	F12	240	4200	64
300	455	400	370	23x12	4	24,5	270	282	342	242	232	400	408	27,8	8	55	F12	600	5700	93
350	505	460	429	23x16	4	24,5	290	339	366	264	280	600	536	35,7	10	65	F14	900	7800	125
400	565	515	480	28x16	4	24,5	310	385	430	310	292	600	571	41,7	12	65	F14	1040	13000	146
450	615	565	530	28x20	4	25,5	330	432	447	340	322	700	658	49,6	16	80	F16	1800	15000	190
500	670	620	582	28x20	4	26,5	350	481	505	379	360	700	692	59,6	18	80	F16	2000	19000	236
600	780	725	682	31x20	5	30	390	576	584	437	422	600	638	59,6	18	110	F25	2880	28000	350
700	895	840	794	31x24	5	32,5	430	675	636	480	451	500	714	79,7	22	110	F25	4200	38000	515
800	1015	950	901	34x24	5	35	470	780	728	548	517	500	776	79,7	22	110	F25	8000	50000	635
900	1115	1050	1001	34x28	5	37,5	510	872	789	614	564	500	913	99,8	28	130	F30	13700	67000	965
1000	1230	1160	1112	37x28	5	40	550	970	905	665	634	600	989	119,7	32	130	F30	20400	90000	1200
1200	1455	1380	1328	41x32	5	45	630	1157	1025	800	735	600	1322	119,7	32	165	F35	22000	130000	1820

*Valve torque safety factor is not included.

DIMENSIONS - PN25							
DN (mm)	D	K	d	Øl x n	f	b	L
100	235	190	156	23x8	3	19	190
150	300	250	211	28x8	3	20	210
200	360	310	274	28x12	4	22	230
250	425	370	330	31x12	4	24,5	250
300	485	430	389	31x16	4	27,5	270
350	555	490	448	34x16	4	30	290
400	620	550	503	37x16	4	32	310
450	670	600	548	37x20	4	34,5	330
500	730	660	609	37x20	4	36,5	350
600	845	770	720	41x20	5	42	390
700	960	875	820	44x24	5	46,5	430
800	1085	990	928	50x24	5	51	470
900	1185	1090	1028	50x28	5	55,5	510
1000	1320	1210	1140	57x28	5	60	550

BUTTERFLY VALVE DOUBLE ECCENTRIC FLANGED FAF 3800

Double Eccentric Flanged Butterfly Valves can be classified according to various designs

1- According to disc design & seating of disc inside the body:

- Centric (Concentric)
- Eccentric
- Double Eccentric
- Triple Eccentric

2- According to drive type:

- Hand Lever
- Manual Gearbox
- Actuated (Electric or Pneumatic)

Advantages of Double Eccentric Flanged Butterfly Valve

- Has smaller dimensions and lower weight compared to other valve types.
- Ease of installation with small dimension and lower weight.
- Gearboxes ease opening and closing with low torque.
- No maintenance needed. When sealing ring damaged, can be replaced easily without the need for qualified personnel and special tools. Even, this operation can be done in big size valves without disassembling from the line

Points to be considered with Double Eccentric Flanged Butterfly Valve Operation;

- First point, the most appropriate valve needs to be chosen depending on the area of application and conditions.
- In general butterfly valves can be used for regulating and controlling the flow, but should not be used for the purpose of reducing the flow. The waterjets occurring from reduced flow damages the sealing rings and valves lose its sealing properties. In the case where reduced flow is needed, it should be explained clearly and an appropriate design should be arranged conforming this condition.
- Butterfly valves should not be used for discharge purposes. Due to hydrodynamic moments caused by high flow rate during discharge, opening and closing the valve above certain degrees will not be possible. For this kind of applications, conic valves or plunger valves should be used.
- Another point needs to be considered with the usage of butterfly valves is that; these valves are operated with high ratio gearboxes. At many fields, in order to maintain sealing, high forces are applied on the valves, closure is done by attaching an extension pipe to the handwheel. With a right size gearbox, there is no need for such applications. Valve can be opened or closed by one person. When worm gear equipped gearbox on a butterfly valve is closed, disc movement is stopped by the limit pins available on the gearboxes. Forcing beyond this level will not maintain higher sealing in contrary will damage the gearbox.
- In order to ease the installation of butterfly valves, position and place of gearbox can be changed. This point should be informed to our company by the client prior to manufacturing phase.
- Valves should not be used out of the operating pressure, operating temperature and type of fluid mentioned on the manual. In order to prevent the valve from the high pressure and distortion on the system, they should be installed with certain distances from bend and outlet points, this distance can be approximately; 3 to 5 times of valve diameter.
- At places where valves are rarely used, one open/close cycle should be done in every 3-4 months time.

Safety Manual for Maintenance, Inspection and Installation Works

For the trouble-free usage of butterfly valves, this manual should be reviewed carefully and information supplied should be applied continuously.

Not following the safety instructions will cause below issues.

- Personal injuries,
- Danger for both environment and valve,
- Malfunction of the major valve / facility functions,
- Failure of the projected maintenance and repair applications,
- Danger to people connected to electrical, mechanical and chemical effects.
- Damage to the environment caused by dangerous leakage,

No modifications or changes can be made to the products supplied by FAF Valve Company. FAF Valve Company shall not be liable for any damages or damages that may result from the failure to comply with the information given in this manual or modification without prior authorization.

Installation, use and maintenance of the butterfly valves should be done with professionally trained people. Although all FAF VANA products are manufactured in accordance with international regulations and standards, valves are potentially hazardous if not used properly or used for purposes other than their intended use.

All responsible personnel for the storage, installation, use, maintenance and disassembly of the valves should carefully read and well understand this document. All international and local safety instructions must be reviewed and understood before taking any action on the valve or pipeline. All necessary precautions must be taken.

If any repairs are to be made, there should be no pressure on the pipeline, and if necessary, all fluid should be drained and warning signs should be placed around the working area.

Devices that can be remotely controlled, such as actuators should be switched to off position. Precautions should be taken to prevent operation of those kind of devices working with stored energy such as compressed air, pressurized water, hydraulic uninterruptible power supply, etc. If a drain valve is to be repaired or uninstalled, precautions must be taken to ensure that the working zone is suddenly filled with water.

The use of original spare parts will ensure the operational safety of the products. The manufacturer can not be held responsible for damage caused by use of non-original parts or accessories.

If a valve needs to be removed, the pipeline should be discharged. The necessary precautions should be taken due to the remaining fluid which will flow freely after the valve has been removed.

Avoid sudden movements during the lifting, moving and lowering of the valve. Sudden movements may damage the valve and/or lifting equipment. The lifting must only be done from the lifting lugs located on the body.

The valve may move involuntarily aside during the lifting operation with a crane. Lifting by crane should be done by a specialist personnel and no one other than the operator should enter the working area during the operation.

Any operation on the actuated valve can be done after the actuator has been removed from the power supply. The procedure described in the operating instructions must be followed to switch off the actuator.

BUTTERFLY VALVE DOUBLE ECCENTRIC FLANGED FAF 3800



- Before installing the valve, since any possible corrosion, welding particules, dirt and residue may casue deformation on the valve and may casue leakage, remove any such residue from the line by air or steam.
- The pipe centers to which the valve is to be installed must be at the same axis, the counter flanges should be perpendicular to the pipe axis, and the flange bolt holes must be on the same axis. Otherwise, due to axial misalignments, it would cause stress on the valve and would cause leakage!
- If the construction work will continue after the valve installation, the valve should be protected from external factors by placed under suitable protective material. Valve shoulnot be damaged with processes like excavation, paint application, concrete pouring.
- Care must be taken that the flanges connected to the pipeline are not pulled towards the valve when the bolts are tightened. Despite the tensile stresses that may occur, we recommend the use of dismantling joints together with the butterfly valves.
- Allow sufficient space for ease of use, maintenance, disassembly and cleaning of the valve in the chamber where the valve is located.
- Install the valve on the pipeline by using interflange gaskets along with the necessary installation equipments starting with the first side and then the second side without allowing the occurrence of pulling stress. Take out the looseness of bolts and nuts and tighten reciprocally at specified torque values.
- Donot close the valve before cleaning the residue inside the pipe.
- Perform the on/off operation in the directions indicated on the gearbox.
- Valve open and close limit switches on the gearbox are set during production. If necessary, can be readjusted through the setting screws located on the gearbox during comissioning.
- Taking into consideration the nominal pressure marked on the valve; it is necessary to carry out a leakage inspection with 1.1 times of this pressure.

Replacing The Disc Sealing Ring

Make sure that there is no pressure on the line during disc sealing ring replacement. Attention should be paid to safety regulations.

The sealing ring can be replaced without removing the disc or removing the valve from the pipeline. However, at least the valve should be accessible by detaching it from one of the pipeline side.

Disc should be in fully opened position.

The bolts (7) and the retaining ring (5) should be removed by loosening the bolts reciprocally.

The sealing ring (4) and o-rings (3-6) should be removed.

The new sealing ring (4) and o-rings (3-6) should be assembled to their locations by gently lubricating with approved lubricant.

Bolts must be tightened reciprocally by the torque values specified on the table.

Torque values (Nm) for the disc sealing ring bolts

DN100 DN150	DN200-DN250 DN300	DN350 and DN1200 included
8.7	21.2	42

Shaft Area O-Ring Replacement

Ensure that there is no pressure on the line. Attention should be paid to safety regulations.

The valve should be accessible by detaching it from one of the pipeline side.

The disc must be in the fully open position.

The gearbox (33) must be detached by removing the bolts and washers (30-31). The key (27) on the shaft should be removed.

The top cover (22) should by detached by removing the bolts (24-23). Remove the bolt(s) (18) on the disc and remove the o-rings(17).

With pulling the main shaft, the main shaft (9), the main shaft bearing (19), the upper bushing (13) should be taken out of the body (1) and the key (8) on the main shaft should not be dropped.

O-rings (11-12-17) should be replaced with new ones, lightly lubricated with approved lubricant and should be fitted in their places.

The reassembly must be followed in reverse order of disassembly, taking care that the top cover face-to-face alignment is well arranged together with the allen key area setscrews (21).

Make sure that the disc and gearbox position indicator match each other.

The bottom cover (22) should be detached by removing the bolts (28-29).

With pulling the support shaft, the support shaft (10), the support shaft bushing (16) and the support shaft bearing (20) should be taken out of the body (1).

O-rings (14-15) should be replaced with new ones, lightly lubricated with approved lubricant and should be fitted to their places.

The reassembly must be followed in reverse order of disassembly, taking care that the bottom cover (26) face-to-face alignment is well arranged together with the allen key area setscrews (25).

- After maintenance, if leakage occurs at closed position, the adjustment can be done with the setscrews (21-25) by loosening the bolts located at bottom and upper cover areas. Afterwards gearbox is assembled through tightening the bolts.

M6	M8	M10	M12	M16	M20	M24	M30
8.7	21.2	42	73	180	370	603	1300

BUTTERFLY VALVE DOUBLE ECCENTRIC FLANGED FAF 3800



Troubleshooting

All repair and service works must be carried out by qualified personnel using suitable tools and original spare parts

Problem	Cause	Remedial Action
Valve cannot be operated	Foreign material jammed inside the valve	Fully open the valve and take out the dirt inside the valve
	Gearbox blocked	The gearbox settings must be checked or the gearbox must be turned in the opposite direction
	Electric actuator problem	Check the electrical connection and settings of actuator
Leaks in the body seat	Valve not completely closed	Fully close the valve by checking the mechanical position indicator
	Valve sealing ring worn or damaged	Replace sealing ring
Leaks in valve pipe installation and body	Gaskets damaged	Replace gaskets
	Bolts/nuts are loose	Tighten according to mentioned torque values
Valve makes noise	Valve operating beyond its limits	Check the working conditions and design features. Change valve installation location or change the valve type suitable for the area of usage
	Wrong installation position. (Valve is too close to a reducer, elbow, control valve, etc.)	Change installation position
Torque value very high	Deposit (lime, sand, etc.) accumulation may happened on the body seat	Fully open the valve and clean the deposit
	Pipeline is dry, sealing ring is dry	Apply approved lubricant or silicone on body seat and sealing ring

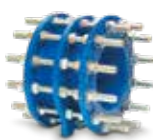
Associated Products for the Double Eccentric Flanged Butterfly Valve Range



3960
FLANGE ADAPTOR



3970
COUPLING



3900
DISMANTLING JOINT



5000
RUBBER
EXPANSION JOINT



2280
CHECK VALVE TILTING



3780
ELECTRIC ACTUATOR



2500
Y-TYPE STRAINER



7340
KINETIC ARV



7330
DYNAMIC ARV

BUTTERFLY VALVE U TYPE

FAF3800U



Features

- PTFE bushing ensure the maximum shaft support.
- 360° polished disc assures positive on-off.
- Hard-backed cartridge seat.
- Universal ISO5211 mounting pad.
- Flow curve tending to straight line. Excellent regulation performance.
- Bubble-tight sealing with no leakage under pressure test.
- Wide selection of materials, applicable for various mediums.
- Higher thicknesses are available upon request.
- Stem sealing is not easy deformation, so avoids leakage phenomenon.
- Overall support is good, stable and solid.
- Use less rubber of seat, so expansion has small impaction and easy to control torque value at an appropriate range.
- Applying to two pieces of no-sells connection; structure is simple and convenient to be maintained.
- Butterfly disc owns automatic alignment function and achieved small combination of disc and seat.
- Phenolic back seat is featured such as no loss, tensile, anti-leak, convenient replacement etc.
- For seat sealing surface and phenolic back as whole as a whole, it can reduce amount of deformation.
- Long service life.

Temperature

- +130 °C (EPDM)
- +100 °C (NBR)

PRODUCTION STANDARDS

DN40 → DN2000
PN 10-16

Design	EN 593
Connection	EN 1092-2 ISO 7005-2 Flanged
End Connection	EN 558 Series 20
Marking	EN 19
Tests	EN 12266-1
Corrosion Protection	Electrostatic Powder Epoxy WRAS Approved (Optional)

Product Description

FAF3800U U-Type Flanged Butterfly Valve is resilient-seated in double-flange design with centric bearing disc. The valve simple and compact construction, quick 90° on-off operation. Has simple structure; good interchangeability and low price.

Versions

- Standard version with gearbox
- Prepared for electrical actuator
- With electrical actuator
- Custom production for specific orders

Accessories

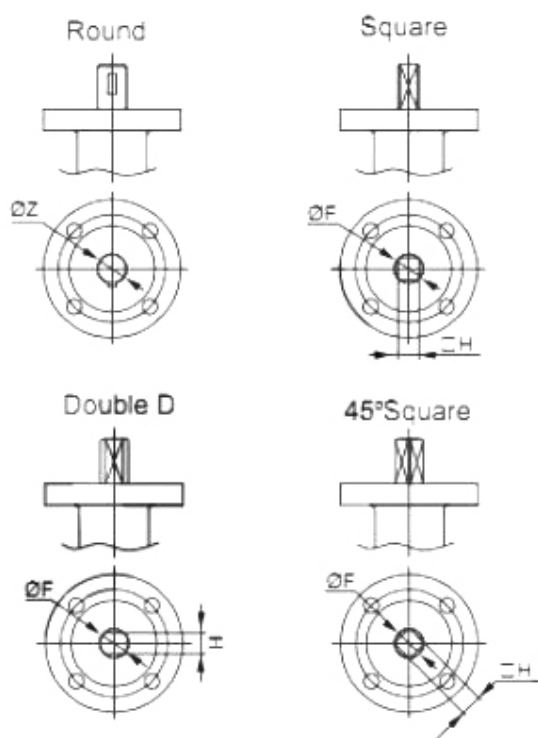
- T-key, FAF7250
- Extension spindle, ST steel, FAF3790
- Surface box, cast iron, FAF3790
- Position indicator
- Flange adaptors, FAF3960
- Dismantling joints, FAF3900
- Handwheel

Scope of Application

- Chamber installation
- Installation in plants
- Pipelines
- Water treatment plants
- Pumping stations
- Tanks
- Seawater applications
- Power plants (cooling water pipelines)
- Industry

BUTTERFLY VALVE U TYPE

FAF3800U



MATERIAL SELECTION

Body	EN-GJL-250 Cast Iron / GG25
	EN-GJS-400 Ductile Iron / GGG40
Disc	A351 CF8M Stainless Steel
	EN-GJS-400 Ductile Iron / GGG40
Stem	1.4401 - AISI 316 Stainless Steel
	1.4021 - AISI 420 Stainless Steel
Sealing	EPDM
	NBR

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

- For proper use and safety precautions please follow the installation and operating instructions.

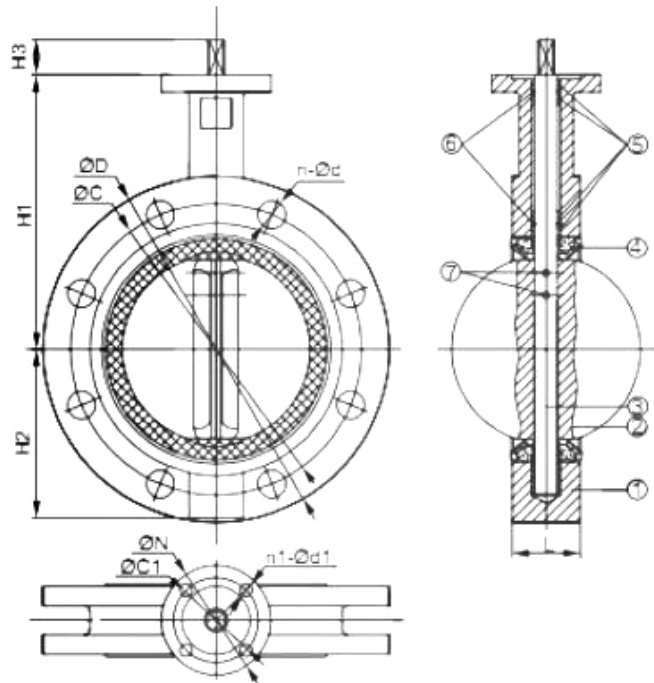
Material List

NO	ITEM	MATERIALS
1	BODY	EN-GJL-250 CAST IRON
2	DISC	A351 CF8M STAINLESS STEEL
3	STEM	1.4401 - AISI 316 STAINLESS STEEL
4	SEAT	EPDM
5	BUSHING	PTFE
6	O-RING	EPDM
7	PIN	A351 CF8M STAINLESS STEEL

BUTTERFLY VALVE U TYPE

FAF3800U

Technical Details & Drawing, Dimensions



Size		L	H1	H2	H3	ISO5211				DIN2501 PN16			φZ	φF	H
DN	NPS					TOP	φN	ΦC1	n1-φd1	ΦD	φC	n-φd			
40	1.5"	33	139	75	29	F05	65	50	4-φ8	150	110	4-φ18	12.6	12.1	9
50	2"	43	161	82.5	29	F05	65	50	4-φ8	165	125	4-φ18	12.6	12.1	9
65	2-1/2"	46	175	92.5	29	F05	65	50	4-φ8	185	145	4-φ18	12.6	12.1	9
80	3"	46	181	100	29	F05	65	50	4-φ8	200	160	8-φ18	12.6	12.1	9
100	4"	52	200	110	29	F07	90	70	4-φ10	220	180	8-φ18	15.77	14.1	11
125	5"	56	213	125	29	F07	90	70	4-φ10	250	210	8-φ18	18.92	18.1	14
150	6"	56	226	142.5	29	F07	90	70	4-φ10	285	240	8-φ22	18.92	18.1	14
200	8"	60	260	170	35	F010	125	102	4-φ12	340	295	12-φ22	22.1	22.2	17
250	10"	68	292	202.5	35	F010	125	102	4-φ12	405	355	12-φ26	28.45	28.2	22
300	12"	78	337	230	35	F010	125	102	4-φ12	460	410	12-φ26	31.6	28.2	22
350	14"	78	368	260	45	F010	125	102	4-φ12	520	470	16-φ26	31.6	28.2	22
400	16"	102	400	290	51.2	F014	175	140	4-φ18	580	525	16-φ30	33.15	28.2	22
450	18"	114	422	324	51.2	F014	175	140	4-φ18	640	585	20-φ30	38	36.2	27
500	20"	127	480	357.5	64.2	F014	175	140	4-φ18	715	650	20-φ33	41.15	36.2	27
550	22"	154	537	378	70.2	F016	210	165	4-φ22	N/A	N/A	N/A	50.65	48.2	36
600	24"	154	562	420	70.2	F016	210	165	4-φ22	840	770	20-φ36	50.65	48.2	36

Size		L	H1	H2	H3	ISO5211				DIN2501 PN10			φZ	φF	H
DN	NPS					TOP	φN	ΦC1	n1-Φd1	ΦD	φC	n-Φd			
700	28"	165	624	455	85	F25	300	254	8-φ18	895	840	24-Φ30	55	60.2	46
750	30"	167	646	499	86	F25	300	254	8-φ18	965	900	24-Φ30	55	60.2	46
800	32"	190	672	513	85	F25	300	254	8-φ18	1015	950	24-Φ33	55	60.2	46
900	36"	203	720	563	118	F25	300	254	8-φ18	1115	1050	28-Φ33	75	72.2	55
1000	40"	218	800	628	130	F25	300	254	8-φ18	1230	1160	28-Φ36	85	72.2	55
1050	42"	251	825	740	150	F25	300	254	8-φ18	N/A	N/A	N/A	85	72.2	55
1100	44"	254	825	740	128	F25	300	254	8-φ18	1340	1270	32-Φ36	95	72.2	55
1200	48"	254	940	844	150	F30	350	298	8-φ22	1455	1380	32-Φ39	105	98.2	75

DISMANTLING JOINT

FAF 3900



Features

- FAF 3900 dismantling joint enables the installation of valves to pipelines due to its variable installation size and reduces the operation time.
- EPDM sealing gaskets
- Dismantling joint ceases the problem that length differences arising from expansion and contraction in pipelines to be provided by the size tolerance.
- Through its body made of ductile iron, it can resist to high-tension stresses that may occur on the pipelines.
- The body is coated with electrostatic fusion bonded epoxy (FBE) / oven backed powder epoxy coating. It has resistance to corrosion fluids.

Temperature

- +130 °C (EPDM)

PRODUCTION STANDARTS

DN100 → DN2000

PN 10-16-25

Connection FLANGED EN 1092-2 ISO 7005-2

Marking EN 19

Tests EN 12266-1

Corrosion Protection Electrostatic Powder Epoxy

Product Description

Dismantling Joints play a decisive role in the design and layout of pipelines and valves. They are an essential aid during the installation and removal of pipe sections and valves. FAF3900 Dismantling Joint provides easy installation valves to pipelines due to its variable installation size and reduces the operation time and are particularly suitable for simplifying the installation & removal of isolation valves, control valves, check valves, non-return valves, flow metering valves, pump sets, pressure reducing valves, flanged pipe & fittings.

Versions

- Standard version with galvanized steel bolts, studs and washers
- Standard version with stainless steel bolts, studs and washers
- Custom production for specific orders

Scope of Application

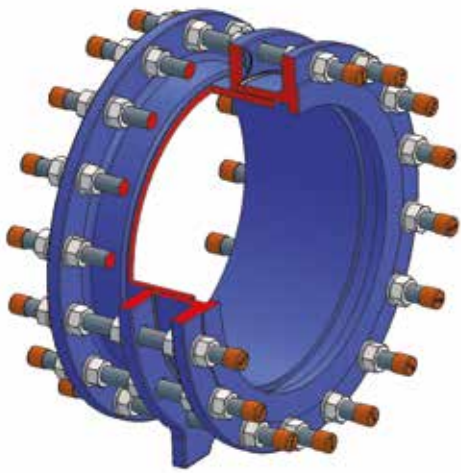
- Potable water
- Distribution Lines
- Industrial Applications
- Chamber installation
- Water treatment plants
- Pumping stations
- Seawater applications
- Industry

Note

- For proper use and safety precautions please follow the installation and operating instructions.

DISMANTLING JOINT

FAF 3900



MATERIAL SELECTION

Body	EN-GJS-500 DUCTILE IRON / GGG50
	EN-GJS-400 DUCTILE IRON / GGG40
Bolts	8.8 - Galvanized Steel (Default)
	1.4021 - AISI 304 Stainless Steel (Optional)
	1.4401 - AISI 316 Stainless Steel (Optional)
Sealing	EPDM

PRODUCTS MODEL CODES

FAF3900	Dismantling Joint PN 16
FAF3910	Dismantling Joint PN 10
FAF3925	Dismantling Joint PN 25

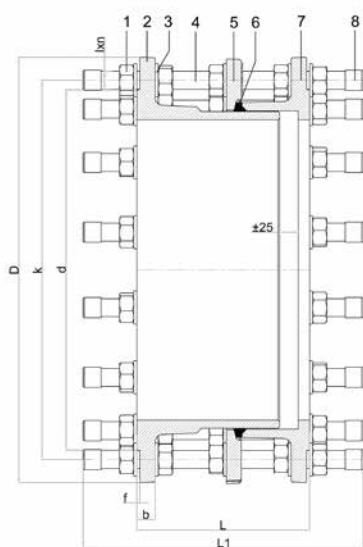
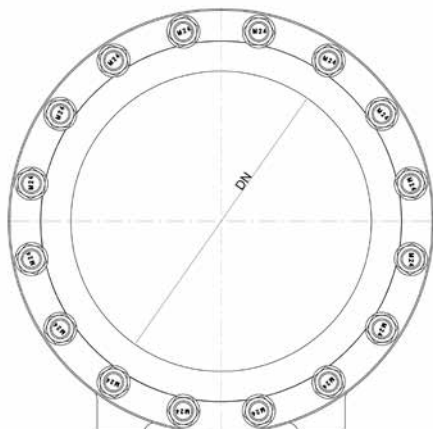
VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6
25	37,5	27,5

100% of the valves are subjected to hydrostatic tests at FAF facilities.

DISMANTLING JOINT

FAF 3900



NO	ITEM	MATERIALS
1	NUT	GALVANISED STEEL / STAINLESS
2	LONG FLANGE	EN GJS 500
3	WASHER	GALVANISED STEEL / STAINLESS
4	STUD	GALVANISED STEEL / STAINLESS
5	COMPRESSION FLANGE	EN GJS 500
6	SEALING GASKET	EPDM
7	SHORT FLANGE	EN GJS 500
8	STUD COVER	POLYMER

DN (mm)	D		K		d		Øl x n		f PN 10/16	b		L		L1		Weight (kg)	
	PN 10	PN 16	PN 10	PN 16	PN 10	PN 16	PN 10	PN 16		PN 10	PN 16	PN 10	PN 16	PN 10	PN 16	PN 10	PN 16
100	220		180		156		M16x8		3	19		200		330		20	
125	250		210		184		M16x8		3	19		200		330		25	
150	285		240		211		M20x8		3	19		200		330		32	
200	340		295		266		M20x8	M20x12	4	20		220		340		43,5	47
250	400		350	355	319		M20x12	M24x12	4	22		220	230	360	370	64	68
300	455		400	410	370		M20x12	M24x12	4	24,5		220	250	360	410	74	87
350	505	520	460	470	429		M20x16	M24x16	4	24,5	26,5	230	260	360	410	90	105
400	565	580	515	525	480		M24x16	M27x16	4	24,5	28	230	270	370	430	112	152
450	615	640	565	585	530	548	M24x20	M27x20	4	25,5	30	250	270	390	430	140	187
500	670	715	620	650	582	609	M24x20	M30x20	4	26,5	31,5	260	280	390	440	157	240
600	780	840	725	770	682	720	M27x20	M33x20	5	30	36	260	300	410	500	210	339
700	895	910	840	840	794	794	M27x24	M33x24	5	32,5	39,5	260	300	410	500	290	315
800	1015	1025	950	950	901	901	M30x24	M36x24	5	35	43	290	320	460	520	365	485
900	1115	1125	1050	1050	1001	1001	M30x28	M36x28	5	37,5	46,5	290	320	460	520	405	540
1000	1230	1255	1160	1170	1112	1112	M33x28	M39x28	5	40	50	290	340	500	560	521	725
1200		1485	1380	1390	1328	1328	M36x32	M45x32	5	45	57	320	360	520	600	900	1060

DISMANTLING JOINT

FAF 3900

Advantages of Dismantling Joints

Simplify installations and replacement of flanged fittings in retrofitting applications. Provides the solution for adding, repairing or replacing flanged fittings within a flanged pipe system. Adjustable, slip joint design accommodates either wide gaps or close quarter installations and eliminates the need for precise measurements between flange connections.

Allows For Adjustment

Simplify installations and replacement of flanged fittings in retrofitting applications. Provides the solution for adding, repairing or replacing flanged fittings within a flanged pipe system. Adjustable, slip joint design accommodates either wide gaps or close quarter installations and eliminates the need for precise measurements between flange connections.

Easy to Install

The installation is also straightforward using just a spanner and torque wrench to tighten the high tensile steel or stainless steel tie bars. With fewer tie bars than flange holes and the tie bars acting as flange jointing bolts the process is speeded up but still offers a secure, rigid, fully end load resistant system with a pressure rating equal to that of the flange.

The Range

A comprehensive range is available from DN100 to DN2000 with virtually any flange drilling or pressure rating supplied, although larger sizes and custom made Dismantling Joints can be designed and built on request.

Safeguards

- Check flanges to make sure you are using the correct size FAF3900; also check the length of FAF3900 to make sure it will fit in the space allocated.
- Make sure no foreign materials lodge between gasket and seal.
- Avoid loose fitting wrenches, or wrenches too short to achieve proper torque.
- Keep threads free of foreign material to allow proper tightening.
- Take extra care to follow proper bolt tightening procedures and torque recommendations. Bolts are often not tightened enough when a torque wrench is not used.
- Pressure test for leaks before backfilling.
- Backfill and compact carefully around pipe and fittings.

Associated Products for Dismantling Joints Range



6000
GATE VALVE RESILIENT
SEATED (F4)



3800 BUTTERFLY VALVE
FLANGED DOUBLE
ECCENTRIC



2280
CHECK VALVE TILTING

FLANGE ADAPTOR

FAF3960



Features

- Can be applied very fast and easily on field conditions
- No need to use additional sealing gaskets
- No need to use special tools for installation
- Can be used with pipes made of steel, ductile, PVC, cast iron, GRP and concrete pipes with asbestos
- When needed, smaller sized valves can be installed on bigger sized pipelines by using reduced bore flange adaptor
- Zero stem leakage eliminates media loss and satisfies environmental regulations.

Temperature

- +130 °C

PRODUCTION STANDARDS

DN40→DN600
PN 16

Product Description

FAF3960 Flange Adaptor is a semi-connection part enables the installation of flanged items like valves, flow meter, etc. on different type of pipelines when needed.

Versions

- Standard version
- Custom production for specific orders

Scope of Application

- Assembly of Flanged Installation Units to various to pipes with different size and material

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

- For proper use and safety precautions please follow the installation and operating instructions.

COUPLING

FAF3970



Features

- No need to cut off the whole flow on the pipeline.
- Can be applied very fast and easily on field conditions.
- No need to use additional sealing gaskets.
- No need to use special tools for installation.
- Can be used with pipes made of steel, ductile, PVC, cast iron, GRP and concrete pipes with asbestos.
- Pipes with high diameter differences can be connected to each other by using reduced bore pipe couplings.
- No need to use special tools for installation.

Temperature

- +130 °C

PRODUCTION STANDARDS

DN40→DN600
PN 16

Product Description

FAF3970 pipe couplings is a semi-connection part enables the necessary repair and modifications on the pipelines, connecting pipes with different type and diameter.

Versions

- Standard version
- Custom production for specific orders

Scope of Application

- Pipeline repair&maintenance work that require fast and reliable installations.

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

- For proper use and safety precautions please follow the installation and operating instructions.

BRASS BALL VALVE

FAF4000



Features

- It has brass material, which is made of copper and zinc composite. It is manufactured by die forcing in moulds and by precision machining on CNC machines.
- FAF branded brass valves made of MS58 quality brass. It has high durability and impact resistance at low temperature. It can be used at water installations.
- The valves are suitable for line assembly in pipeline, the principal aim is to open and close flow in distribution systems.
- Recommended for open/close applications.
- It is recommended to wrap the valve body with wet rags or employ other heat absorbing techniques to avoid damaging valve seats and thread sealant.
- Tightening stem packing after soldering may be required.
- Leakproof stem.
- Stock piled for quick delivery.

Temperature

- -10, +110 °C

PRODUCTS MODEL CODES

FAF4000	BALL VALVE
FAF4100	GAS BALL VALVE
FAF4200	BRASS Y-STRAINER
FAF4300	BRASS SPRING CHECK VALVE
FAF4350	BRASS SWING CHECK VALVE

PRODUCTION STANDARTS

DN15 → DN100

PN 16-25

Design	TSE CEN / TS 13547
Connection	Threaded EN ISO 228-1
Face to Face	TSE CEN / TS 13547
Marking	TSE CEN / TS 13547
Tests	TSE CEN / TS 13547

Product Description

FAF4000 Brass Ball Valve works parallel or vertical position to flow axis by rotating quarter tour (90 degrees) between teflon seats via a ball which is big as flow section through control shaft.

Scope of Application

- Hot & cold water
- Steam
- Lubricants
- Heating & cooling
- Housing & industrial applications
- Compressed air installations
- Liquid fuels
- Various gases (excluding flammable gases)

VALVE TEST PRESSURE (Bar)

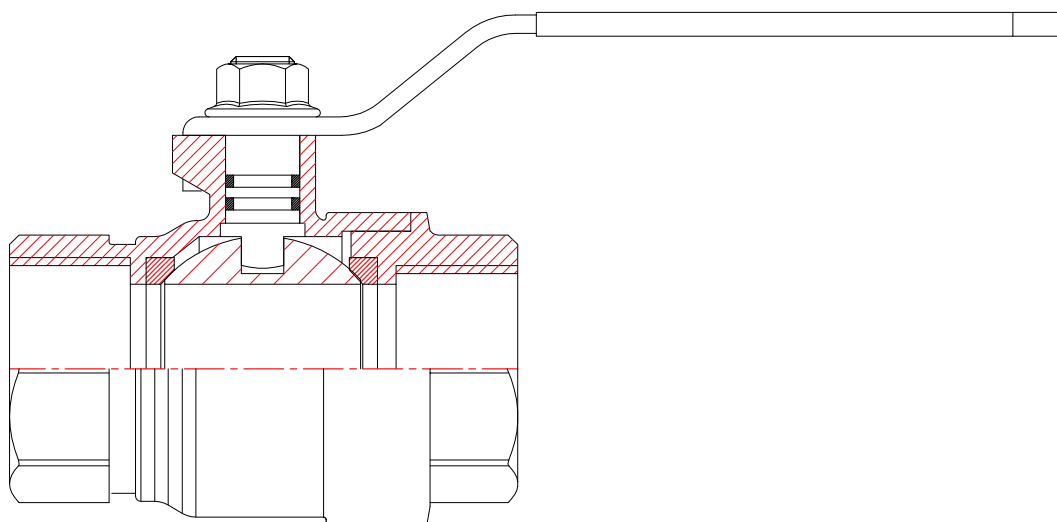
MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6
25	37,5	27,5

100% of the valves are subjected to hydrostatic tests at FAF facilities.

BRASS BALL VALVE

FAF4000

Technical Details & Drawing, Dimensions



MATERIAL SELECTION

Body	CuZn40Pb2 -Nickel Plated
Bonnet	CuZn40Pb2 - Nickel Plated
Lever	ST37 Steel + PVC Coated
Stem	CuZn39Pb3
Ball	CuZn40Pb2 - Chrome Plated
Seals	PTFE - Teflon
O-Ring	NBR
Nut	Galvanized Coated Steel

Pipe Thread	Nominal Dimension	d(mm)	L(mm)	B(mm)	C(mm)
1/2"	15	14	50	85	43
3/4"	20	17	57	85	47
1"	25	24	71	97	47
1 1/4"	32	30	75	111	60
1 1/2"	40	38	87	153	77
2"	50	50	105	153	85

GAS BALL VALVE

FAF4100



Features

- It has brass material, which is made of copper and zinc composite. It is manufactured by die forcing in moulds and by precision machining on CNC machines.
- FAF branded brass valves made of MS58 quality brass. It has high durability and impact resistance at low temperature. It can be used at water installations.
- The valves are suitable for line assembly in pipeline, the principal aim is to open and close flow in distribution systems.
- Recommended for open/close applications.
- It can be manufactured as FAF4110 Locked ball valve, which provides (Open-Close) locking option
- Leakproof stem.
- Stock piled for quick delivery.

Temperature

- -10, +110 °C

PRODUCTS MODEL CODES

FAF4100	GAS BALL VALVE
FAF4110	GAS BALL VALVE with locking option
FAF4000	BALL VALVE
FAF4200	BRASS SPRING CHECK VALVE
FAF4300	BRASS SWING CHECK VALVE
FAF4350	BRASS SWING CHECK VALVE

PRODUCTION STANDARDS

DN15 → DN100
PN 16-25

Design	EN 331
Connection	Threaded EN ISO 228-1
Face to Face	EN 331
Marking	EN 331
Tests	EN 331

Product Description

FAF4100 Brass Ball Valve for gas applications works parallel or vertical position to flow axis by rotating quarter tour (90 degrees) between teflon seats via a ball which is big as flow section through control shaft.

Scope of Application

- Gas
- Pressurized air
- LPG
- Steam
- Heating & cooling
- Housing & industrial applications
- Compressed air installations
- Various gases (excluding flammable gases)

VALVE TEST PRESSURE (Bar)

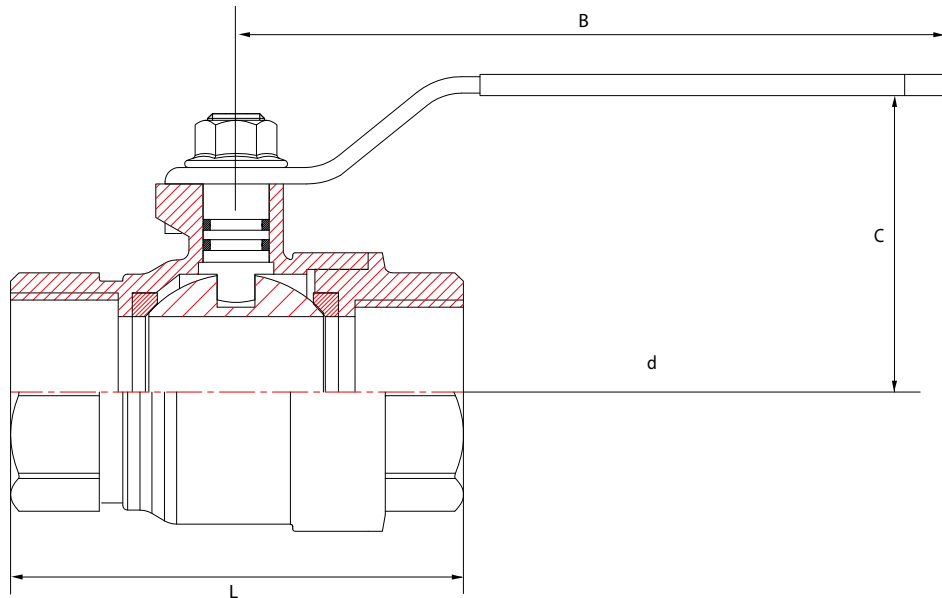
MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6
25	37,5	27,5

100% of the valves are subjected to hydrostatic tests at FAF facilities.

GAS BALL VALVE

FAF4100

Technical Details & Drawing, Dimensions



MATERIAL SELECTION

Body	CuZn40Pb2 -Nickel Plated
Bonnet	CuZn40Pb2 - Nickel Plated
Lever	ST37 Steel + PVC Coated
Stem	CuZn39Pb3
Ball	CuZn40Pb2 - Chrome Plated
Seals	PTFE - Teflon
O-Ring	NBR
Nut	Galvanized Coated Steel

Pipe Thread	Nominal Dimension	d(mm)	L(mm)	B(mm)	C(mm)
1/2"	15	14	50	85	43
3/4"	20	17	57	85	47
1"	25	24	71	97	47
1 1/4"	32	30	75	111	60
1 1/2"	40	38	87	153	77
2"	50	50	105	153	85

BRASS Y-STRAINER

FAF4200



Features

- It provides protection to sensitive and high cost installation equipment from mass particles.
- By removing the cover placed on the body, detailed cleaning can be made or filter can be replaced
- The hole diameters on the filters are determined in order to have a minimum effect on the head loss and flow rate
- FAF branded brass products made of MS58 quality brass. It has high durability and impact resistance at low temperature.
- Stock piled for quick delivery.

Temperature

- -10, +110 °C

PRODUCTS MODEL CODES

FAF4200	BRASS Y-STRAINER
FAF4000	BRASS BALL VALVE
FAF4100	BRASS BALL VALVE - GAS
FAF4300	BRASS SPRING CHECK VALVE
FAF4350	BRASS SWING CHECK VALVE

MATERIAL SELECTION

Body	CuZn40Pb2 - Brass
Bonnet	CuZn40Pb2 - Brass
Filter	AISI 304 Stainless Steel Mesh - 50 mesh/cm2
O-Ring	EPDM

PRODUCTION STANDARDS

DN15 → DN50
PN 16-25

Connection	Threaded EN ISO 228-1
Face to Face	EN 331
Marking	EN 19
Tests	EN 12266-1

Product Description

FAF 4200 Brass Strainer is used for filtering the mass particles inside the flow through the flow passing inside the steel filter chamber situated in the body.

Scope of Application

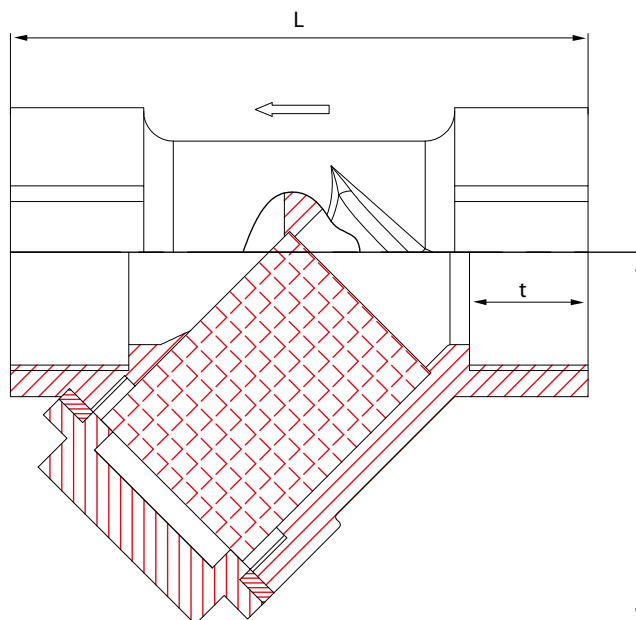
- Hot & cold water
- Lubricants
- Heating & cooling
- Housing & industrial applications
- Compressed air installations

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

Technical Details & Drawing, Dimensions



DN	ΦD	G	t	L	H
15	15	1/2"	12	57	39
20	20	3/4"	12	64.5	44
25	25	1"	14.5	78	55
32	32	1 1/4"	13.5	94	67
40	40	1 1/2"	13	98.5	71
50	50	2"	15	111.5	95

* Valves can be produced with bigger sizes when requested.

SPRING SILENT CHECK VALVE

FAF4300



PRODUCTION STANDARDS

DN15 → DN80
PN 10-16-25

Connection Threaded EN ISO 228-1

Marking EN 19

Tests EN 12266-1

Features

- ABS plastic disc, which is positioned vertical to flow direction seats on sealing surface that processed on the body via expander, force and provides %100 tight sealing.
- The expander shortens and the disc shrinks back and let to flow between the body and the disc when the determined flow in the system starts.
- It can be used at horizontal and vertical positions.
- FAF branded brass products made of MS58 quality brass. It has high durability and impact resistance at low temperature.
- Stock piled for quick delivery.

Temperature

- -10, +110 °C

PRODUCTS MODEL CODES

FAF4300	BRASS SPRING CHECK VALVE
FAF4350	BRASS SWING CHECK VALVE
FAF4000	BALL VALVE
FAF4100	GAS BALL VALVE
FAF4200	BRASS Y-STRAINER

MATERIAL SELECTION

Body	CuZn40Pb2 - Brass
Bonnet	CuZn40Pb2 - Brass
Disc	ABS Plastic
O-Ring	EPDM

Product Description

FAF4300 Spring Silent Check Valve let to fluids in the facility required downstream and ceases the flow in case of reverse flow.

Scope of Application

- Hot & cold water
- Lubricants
- Heating & cooling
- Housing & industrial applications
- Compressed air installations

VALVE TEST PRESSURE (Bar)

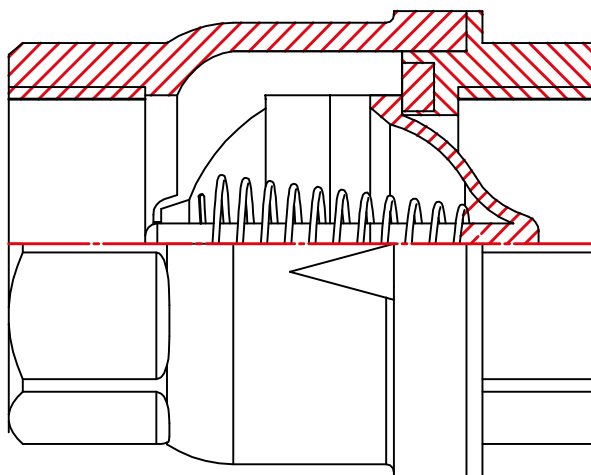
MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6
25	37,5	27,5

100% of the valves are subjected to hydrostatic tests at FAF facilities.

SPRING SILENT CHECK VALVE

FAF4300

Technical Details & Drawing, Dimensions



Pipe Thread	Nominal Dimension	d(mm)	L(mm)	B(mm)	C(mm)
1/2"	15	14	50	85	43
3/4"	20	17	57	85	47
1"	25	24	71	97	47
1 1/4"	32	30	75	111	60
1 1/2"	40	38	87	153	77
2"	50	50	105	153	85

* Valves can be produced with bigger sizes when requested.

SWING CHECK VALVE

FAF4350



PRODUCTION STANDARTS

DN15 → DN50
PN 16-25

Connection Threaded EN ISO 228-1

Marking EN 19

Tests EN 12266-1

Features

- Stainless steel disc, which is positioned vertical to flow direction seats on sealing surface that processed on the body via expander, force and provides %100 tight sealing.
- The expander shortens and the disc shrinks back and let to flow between the body and the disc when the determined flow in the system starts.
- It can be used at horizontal and vertical positions.
- FAF branded brass products made of MS58 quality brass. It has high durability and impact resistance at low temperature.
- Stock piled for quick delivery.

Temperature

- -10, +110 °C

PRODUCTS MODEL CODES

FAF4300	BRASS SPRING CHECK VALVE
FAF4350	BRASS SWING CHECK VALVE
FAF4000	BALL VALVE
FAF4100	GAS BALL VALVE
FAF4200	BRASS Y-STRAINER

MATERIAL SELECTION

Body	CuZn40Pb2 - Brass
Bonnet	CuZn40Pb2 - Brass
O-Ring	EPDM

Product Description

FAF4300 Spring Silent Check Valve let to fluids in the facility required downstream and ceases the flow in case of reverse flow.

Scope of Application

- Hot & cold water
- Lubricants
- Heating & cooling
- Housing & industrial applications
- Compressed air installations

VALVE TEST PRESSURE (Bar)

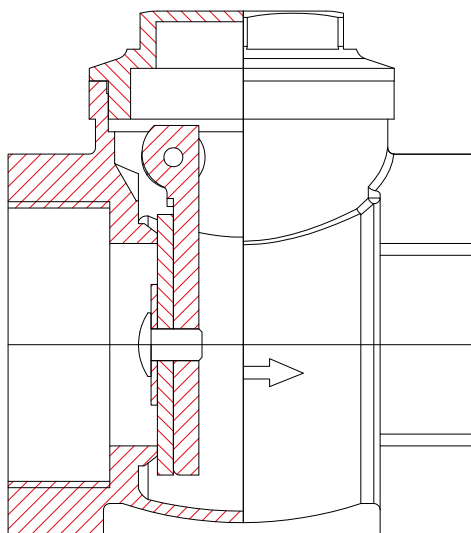
MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6
25	37,5	27,5

100% of the valves are subjected to hydrostatic tests at FAF facilities.

SWING CHECK VALVE

FAF4350

Technical Details & Drawing, Dimensions



PN	G(mm)	B(mm)	C(mm)	(bar)
15	1/2"	44	46	10
20	3/4"	52	55	10
25	1"	62	63	10
32	1 1/4"	72	76	8
40	1 1/2"	80	85	8
50	2"	93	100	8

* Valves can be produced with bigger sizes when requested.

ANGLE RADIATOR VALVE

FAF4400



Features

- Stainless steel disc, which is positioned vertical to flow direction seats on sealing surface that processed on the body via expander, force and provides %100 tight sealing.
- The expander shortens and the disc shrinks back and let to flow between the body and the disc when the determined flow in the system starts.
- It can be used at horizontal and vertical positions.
- FAF branded brass products made of MS58 quality brass. It has high durability and impact resistance at low temperature.
- Stock piled for quick delivery.

Temperature

- -10, +120 °C

PRODUCTS MODEL CODES

FAF4400	ANGLE RADIATOR VALVE
FAF4400	THERMOSTATIC RADIATOR VALVE
FAF4500	STRAIGHT RADIATOR VALVE

MATERIAL SELECTION

Body	CuZn40Pb2 - Brass, Nickel Plated
Sealing Group	CuZn40Pb2 - Brass
Nipple Joint Nut	CuZn40Pb2 - Brass, Nickel Plated
Handwheel	ABS
Coupling Bobbin	CuZn40Pb2 - Brass, Nickel Plated
Fastening screw	Galvanized Steel

PRODUCTION STANDARDS

DN15

Design	TS 579
Connection	Threaded EN ISO 228-1
Marking	EN 19
Tests	TS 579

Product Description

FAF4400 Angle Type Radiator Valve maintains %100 tight sealing by the disc seats on sealing within the flow section through rotating the handwheel.

Scope of Application

- Hot water
- Radiators
- Industrial Applications

VALVE TEST PRESSURE (Bar)

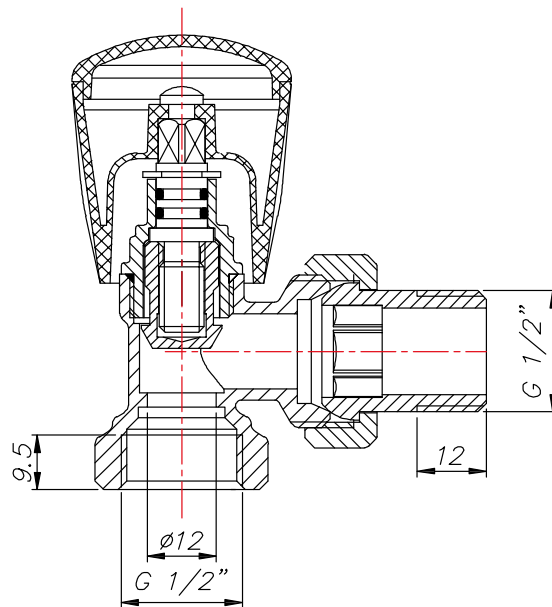
MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

ANGLE RADIATOR VALVE

FAF4400

Technical Details & Drawing, Dimensions



A	B	R1	R2
24	72	1/2"	1/2"
16	71	1/2"	1/2"

* Valves can be produced with bigger sizes when requested.

THERMOSTATIC RADIATOR VALVE

FAF4440



Features

- It is connected at entrance and exit of installation equipment of heat systems, set the flow adjustment and maintains the heating control
- It maintains thermal comfort in living spaces.
- It possible to maintain the rooms in different temperatures and to maintain the rooms, which have different heat abduction at same temperature.
- It prevents overheating than the desired comfort temperature and maintains savings at heating costs.
- It can be installed to two pipes that interlocking with 90 degrees. It can be installed thermostatic radiator valve head on the straight radiator valve.
- FAF branded brass valves made of MS58 quality brass. It has high durability and impact resistance at low temperature.
- Stock piled for quick delivery.

Temperature

- -10, +120 °C

PRODUCTS MODEL CODES

FAF4400	ANGLE RADIATOR VALVE
FAF4440	THERMOSTATIC RADIATOR VALVE
FAF4500	STRAIGHT RADIATOR VALVE

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6
25	37,5	27,5

100% of the valves are subjected to hydrostatic tests at FAF facilities.

PRODUCTION STANDARTS

DN15

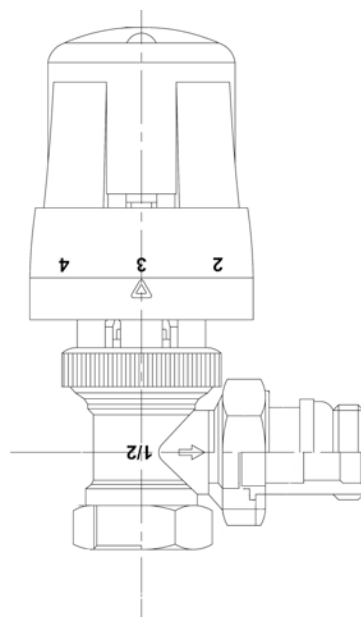
Design	EN 215
Connection	Threaded EN ISO 228-1
Marking	EN 215
Tests	EN 215

Product Description

FAF4440 Thermostatic type radiator valve maintains constant temperature, which is determined on the valve head by the sensitive to ambient temperature fluid.

Scope of Application

- Hot water
- Radiators
- Industrial Applications



MATERIAL SELECTION

Body	CuZn40Pb2 - Brass, Nickel Plated
Sealing Group	CuZn40Pb2 - Brass
Nipple Joint Nut	CuZn40Pb2 - Brass, Nickel Plated
Handwheel	ABS
Coupling Bobbin	CuZn40Pb2 - Brass, Nickel Plated
Fastening screw	Galvanized Steel

STRAIGHT RADIATOR VALVE

FAF4500



Features

- It is connected at entrance and exit of installation equipments of heat systems, set the flow adjustment and maintains the heating control.
- It can be installed to two pipes which are on the same line.
- FAF branded brass valves made of MS58 quality brass. It has high durability and impact resistance at low temperature.
- Stock piled for quick delivery.

Temperature

- -10, +110 °C

PRODUCTS MODEL CODES

FAF4500	STRAIGHT RADIATOR VALVE
FAF4440	THERMOSTATIC RADIATOR VALVE
FAF4400	ANGLE RADIATOR VALVE
FAF4400	THERMOSTATIC RADIATOR VALVE

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6
25	37,5	27,5

100% of the valves are subjected to hydrostatic tests at FAF facilities.

PRODUCTION STANDARTS

DN15

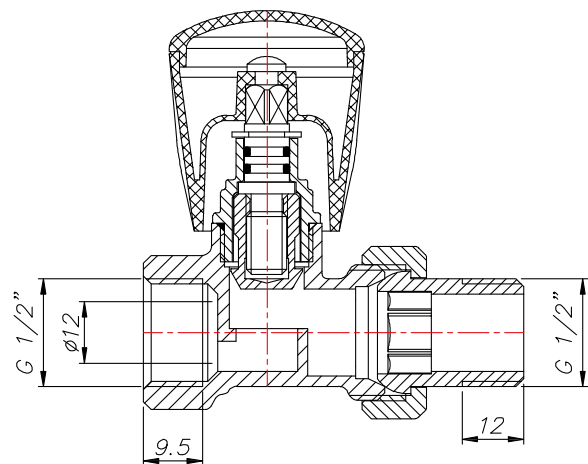
Design	TS 579
Connection	Threaded TS 579
Marking	TS 579
Tests	TS 579

Product Description

FAF4500 Angle type radiator valve maintains 100% tight sealing by the disc seats on sealing within the flow section through rotating the hand wheel.

Scope of Application

- Hot water
- Radiators
- Industrial Applications



MATERIAL SELECTION

Body	CuZn40Pb2 - Brass, Nickel Plated
Sealing Group	CuZn40Pb3 - Brass
Nipple Joint Nut	CuZn40Pb2 - Brass, Nickel Plated
Handwheel	ABS
Coupling Bobbin	CuZn40Pb2 - Brass, Nickel Plated
Fastening screw	Galvanized Steel

FLEXIBLE RUBBER JOINT

FAF5000



Features

- Provides tolerance that exposed temperature differences arising from expansion and contraction in pipelines.
- Lengthening and shortening of the pipeline composed of temperature differences absorb.
- It provides lateral and angular movement to stabilize the pipeline.
- Installation does not require gaskets and seals.
- Allows balancing of the pipeline lateral and angular movements.
- Contribute to the absorption of the water hammer from the system.
- Gasket and joint are not needed for installation.
- Provides easy installation due to rotary flanges.
- It is manufactured EPDM rubber as standard, it can be used NBR rubber if required.
- It can be supplied as various pressure class flanges.
- No gaskets required for installation.
- Are suitable to compensate thermal elongation or even misalignments.
- Are non-corrosive and abrasion-resistant elastomers.
- Unlike metal joints, which often require periodic replacement of the mating flange gaskets, FAF expansion joints being gasket-free are virtually maintenance free over their entire service life.
- Rubber Expansion joints are relatively light in weight, contributing to lower installation labour costs.
- Rubber expansion joints reduce heat loss, giving long maintenance-free service.
- Material properties such as hardness, elasticity, tensile strength, temperature resistance, etc., are rated to the corresponding application.
- Stock piled for quick delivery.

Temperature

- +130 °C

PRODUCTION STANDARDS

DN25 → DN600
PN 10-16

Design	DIN 30680
Connection	EN 1092-1 / ISO 7005-1
Face to Face	DIN 30680
Marking	EN19
Tests	DIN30680
Corrosion Protection	Galvanisation

Product Description

FAF5000 Flexible Joint removes vibration and noise that occurs and transmitted along the line on pipeline facilities due to EPDM rubber body.

Versions

- Damp oscillation, noise and vibration
- Compensate motion
- Compensate expansion caused by differences in temperature
- Reduce tension
- Compensate ground and foundation settling
- Compensate imprecise assembly
- Serve as assembly and disassembly aids
- Provide an elastic wall seal for penetration assemblies
- Compensate pipeline movements

Accessories

- Type: universal, lateral and angular expansion joints
- Pipe connection type: flanged, threaded
- Rubber quality of the bellows: rated to the media transported in the pipes
- Bellows structure: rated to the pressure and temperature load

Scope of Application

- Hot & cold water
- Cooling towers
- Water & waste water applications

FLEXIBLE RUBBER JOINT

FAF5000



* FAF5060 Rubber expansion joint with ductile iron flanges.

MATERIAL SELECTION

Body	Fabric Reinforced EPDM
	Steel Reinforced EPDM
Flange	WCB Cast Steel
	EN-GJS-400 Ductile Iron
Sealing	EPDM
	NBR

PRODUCTS MODEL CODES

FAF5000	RUBBER EXPANSION JOINT
FAF5060	RUBBER EXPANSION JOINT - DI
FAF5070	RUBBER EXPANSION JOINT - THREADED
FAF5100	AXIAL EXPANSION JOINT
FAF5200	EXTERNALLY PRESSURIZED EXPANSION JOINT
FAF5300	ANGULAR EXPANSION JOINT
FAF5400	DILATATION EXPANSION JOINT
FAF5500	VIBRATION EXPANSION JOINT
FAF5600	DECORATIVE EXPANSION JOINT

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

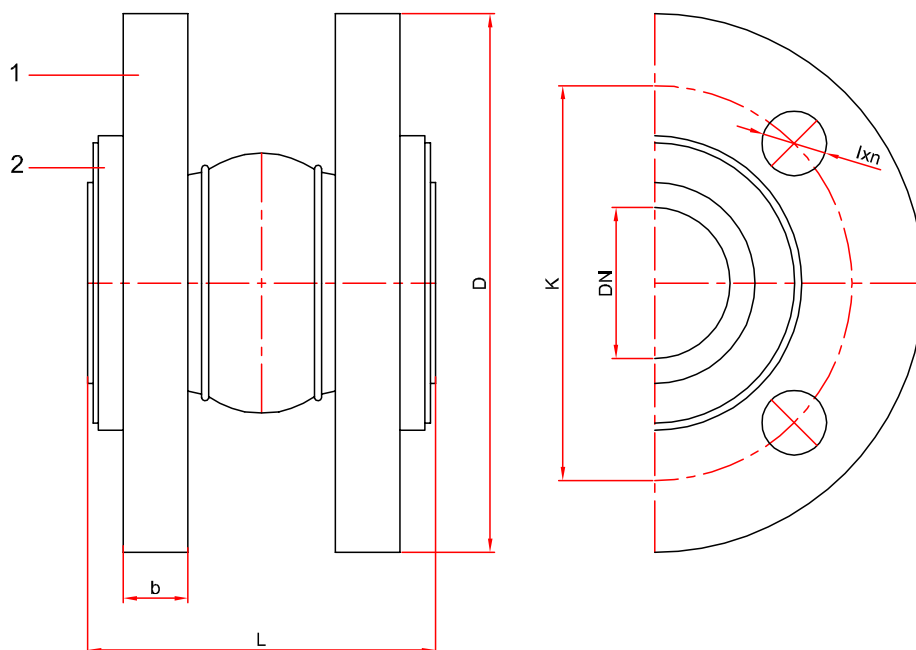
Note

- For proper use and safety precautions please follow the installation and operating instructions.

FLEXIBLE RUBBER JOINT

FAF5000

Technical Details & Drawing, Dimensions



Expansion: Axial + 15mm - 20 mm
Radial 15 mm
Angular 10°

DN	DIMENSION					RATINGS		STUD SIZE	BOLT/ NUT QTY	FAS- TENING MOMENT Nm	WRENCH SIZE (mm)
mm	D	FAF5000	FAF5060	b	K	Pressure Bar	Weight kg				
		L									
25	115	95	100	16	85	16	2,3	M14X60	4X2	85	19
32	140	95	100	18	100	16	3,7	M18X60	4X2	205	24
40	150	95	100	18	110	16	3,8	M18X60	4X2	205	24
50	165	105	100	20	125	16	4,7	M18X60	4X2	205	24
65	185	115	100	20	145	16	5,6	M18X60	4X2	205	24
80	200	135	100	20	160	16	7,1	M18X65	8X2	205	24
100	220	150	100	22	180	16	7,5	M18X65	8X2	205	24
125	250	165	120	22	210	16	10,8	M18X70	8X2	205	24
150	285	180	120	24	240	16	12,5	M22X75	8X2	400	30
200	340	210	120	26	295	16	16,7	M22X80	12X2	400	30
250	405	230	130	29	355	16	18,5	M26X90	12X2	691	36
300	460	245	130	32	410	16	29,2	M26X90	12X2	691	36
350	520	255	160	35	470	16	46	M26X100	16x2	691	36
400	565	255	240	32	515	10	48	M26X110	16X2	691	36
450	615	255	250	36	565	10	51	M26X110	20X2	691	36
500	670	255	270	38	620	10	57,0	M26X120	20X2	691	36
600	780	260	260	42	725	10	70,0	M30X130	20x2	1010	41

* Valves can be produced with bigger sizes when requested.

FLEXIBLE RUBBER JOINT

FAF5000

Installation

Preparation

Check compensator

- Check outside joint cover for damage

Check alignment

- Check the piping system for misalignment, as misalignment reduces the working range of the expansion joint

Check support

- Weight must not be carried by joint
- Support with hangers or anchors

Check flanges

- Clean all mating flanges surfaces
- Do not scratch or damage surfaces during cleaning

Installation

Lubricants

- There is no lubricant needed. Insert bolts from arch side
- Set bolt heads next to the arch
- The bolts must not have contact to the arch of the joint
- Tighten bolts gradually and equally in a star-like crossing patterns around flange
- The tightening torque must not exceed the maximum allowed
- torque of the joint or flange.

Life expectancy of rubber expansion joints

The service life of rubber expansion joints depends on process conditions as well as environmental influences. If the expansion joint demonstrates signs of external damage, deformations or visible alteration, replace it as soon as possible. To check natural aging, the Shore hardness of the joints can be used as an indicator.

Service Conditions

Make sure the expansion joint rating for temperature, pressure, vacuum*, movements and selection of elastomeric materials match the system requirements. Contact FAF Valve if the system requirements exceed those of the expansion joint selected.

Alignment

Expansion joints are not designed to make up for piping misalignment errors. Pipe misalignment should be no more than 1/8" in any direction. Misalignment of an expansion joint will reduce the rated movements and can induce severe stress of the material properties, thus causing reduced service life.

Anchoring

Anchors are required whenever a piping system changes direction. Expansion joints should be located as close as possible to anchor points. If an anchoring system is not used, it is recommended that control rods be installed on the expansion joint to prevent excessive movements from occurring due to pressure thrust of the line.

Pipe Support

Piping must be supported so expansion joints do not carry any pipe weight.

Mating Flanges

- Install the expansion joint against the mating pipe flanges and install bolts so that the bolt head is against the expansion joint flange. Flange-to-flange dimensions of the expansion joint must match the breech opening*.
- Make sure mating flanges are clean and are FLAT FACED TYPE. When attaching beaded end flange expansion joints to raised face flanges, the use of ring gaskets is required to prevent metal flange faces from cutting rubber bead during installation.
- Never install expansion joints next to wafer type check or butterfly valves. Serious damage to the rubber flange bead can result due to lack of flange mating surface and/or bolt connection.

Storage

- Store expansion joints in a dry/cool location such as a warehouse.
- Store flange face down on a pallet or wooden platform.
- Do not store other heavy items on top of expansion joint(s).
- Ten-year shelf life can be expected with ideal conditions.

Handling

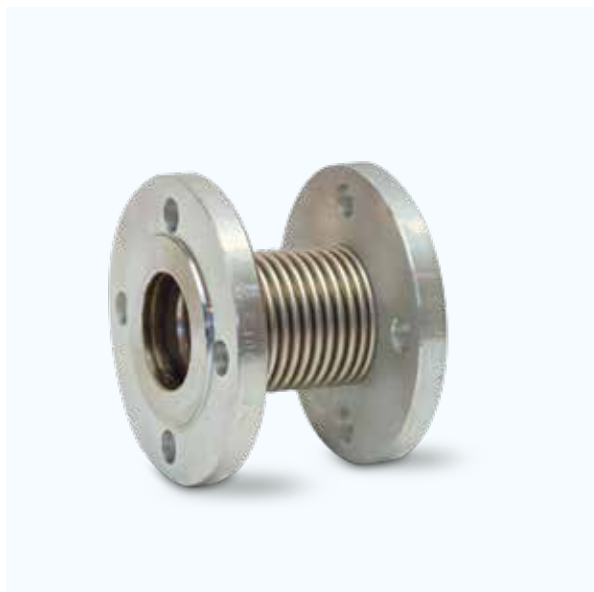
Do not lift with ropes or bars through the bolt holes. If lifting through the bore, use padding or a saddle to distribute the weight. Do not let expansion joints sit vertically on the edges of the flanges for any period of time.

Additional Tips

- Insulation over a non-metallic rubber expansion joints is not recommended; however, if the insulation is required, it should be made removable to permit easy access to the flange area, to check bolting.
- It is acceptable (but not necessary) to lubricate the expansion joint flanges with a thin film of graphite dispersed in glycerin or water to ease disassembly at a later time.
- Do not weld in the near vicinity of a non-metallic expansion joint.
- If an expansion joint is to be installed underground, or will be submerged in water, contact the manufacturer for specific guidelines.
- If the expansion joint will be installed outdoors, make sure the cover material will withstand ozone, sunlight, etc. Materials such as Neoprene and Chlorobutyl are recommended. Materials painted with weather-resistant paint will give additional ozone and sunlight protection.
- Check the tightness of retaining rings two or three weeks after installation and retighten as necessary.

AXIAL EXPANSION JOINT

FAF5100



Features

- FAF Axial Expansion Bellows have been designed to control vibration, reduce noise, relieve stress, prevent system shock and compensate for misalignment and movement.
- Absorbs dimensions differences and vibrations occurs due to thermal differences.
- With the liner option, it prevents the erosion on the bellows that could occur at high flow velocities with vibration and abrasion.
- Use of braided metal connectors for applications such as pumps, compressors, and other mechanical equipment will enhance the overall operation of the system.
- Allows balancing of the pipeline lateral and angular movements.
- Provides easy installation due to rotary flanges.
- Dampens mechanical vibrations and reduce sound conducted through solids on pumps and compressors.
- Compensates for thermal movements and vibrations in flue gas ducts of boilers and engines.
- As assembly aids for pumps, fittings and plate heat exchangers.
- Expansion joints are used in lots of applications, where it concerns safety, health, environment, durability and lifetime. Bellows are made from stainless steel strip which is first welded to a thin walled tube and formed to a bellow afterwards.
- It can be manufactured as rotary flanges (FAF5110), Welding Ends (FAF5120), Fixed Flanges (FAF5130).
- Stock piled for quick delivery.

Temperature

- -20, +430 °C

PRODUCTION STANDARTS

DN32 → DN600
PN 16

Design	DIN 30681
Connection	Flanged End EN 1092-1 / ISO 7005-1 Welding End EN 12627
Face to Face	DIN 30681
Marking	EN 19 / DIN 30681
Tests	DIN 30681

Product Description

FAF 5100 Axial Expansion Joints removes vibration and variation that expansion and contraction arising from temperature differences in pipelines.

Purpose

- Absorbs and isolates troublesome pipeline vibrations
- Smooths out force-pump system pulsations
- Tranquillize jittering compressor pipelines
- Also absorbs pipeline expansion, compensates for misalignment, eliminates piping stresses.
- Ends costly failure and downtime caused by pipeline vibration transmissions
- Customized to solve the vibration problem

Versions

- Type: universal, lateral and angular expansion joints
- Pipe connection type: flanged, threaded
- Rubber quality of the bellows: rated to the media transported in the pipes
- Bellows structure: rated to the pressure and temperature load

Scope of Application

- Hot & cold water
- Industrial applications
- Central heating
- Heat exchangers
- Vacuum technology
- Ship building and exhaust systems
- Pumps & compressors

Advantages

- Inexpensive
- Absorbs all three types of movement
- Easy to install
- Low maintenance

AXIAL EXPANSION JOINT

FAF5100

PRODUCTS MODEL CODES	
FAF5111	AXIAL EXPANSION JOINT Rotating Flanged, L= 30mm, With liner
FAF5112	AXIAL EXPANSION JOINT Rotating Flanged, L= 30mm, Without liner
FAF5113	AXIAL EXPANSION JOINT Rotating Flanged, L= 360mm, With liner
FAF5114	AXIAL EXPANSION JOINT Rotating Flanged, L= 60mm, Without liner
FAF5121	AXIAL EXPANSION JOINT Welding End, L= 30mm, With liner
FAF5122	AXIAL EXPANSION JOINT Welding End, L= 30mm, Without liner
FAF5123	AXIAL EXPANSION JOINT Welding End, L= 60mm, With liner
FAF5124	AXIAL EXPANSION JOINT Welding End, L= 60mm, Without liner
FAF5131	AXIAL EXPANSION JOINT Fixed Flanged, L= 30mm, With liner
FAF5132	AXIAL EXPANSION JOINT Fixed Flanged, L= 30mm, Without liner
FAF5133	AXIAL EXPANSION JOINT Fixed Flanged, L= 60mm, With liner
FAF5134	AXIAL EXPANSION JOINT Fixed Flanged, L= 60mm, Without liner
FAF5000	RUBBER EXPANSION JOINT - LONG TYPE
FAF5200	EXTERNALLY PRESSURIZED EXPANSION JOINT
FAF5300	ANGULAR EXPANSION JOINT
FAF5400	DILATATION EXPANSION JOINT
FAF5500	VIBRATION EXPANSION JOINT
FAF5600	DECORATIVE EXPANSION JOINT

MATERIAL SELECTION

Body 1.4301 - AISI 304 Stainless Steel
1.4401 - AISI 316 Stainless Steel
1.4541 - AISI 321 Stainless Steel

Flange 1.0037 - ST 37 Steel
1.4301 - AISI 304 Stainless Steel
1.4401 - AISI 316 Stainless Steel

Liner 1.4301 - AISI 304 Stainless Steel
1.4401 - AISI 316 Stainless Steel
1.4541 - AISI 321 Stainless Steel

VALVE TEST PRESSURE (Bar)

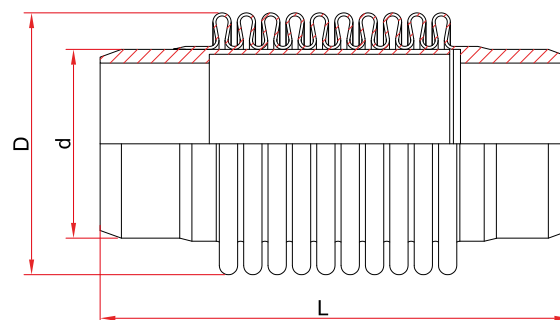
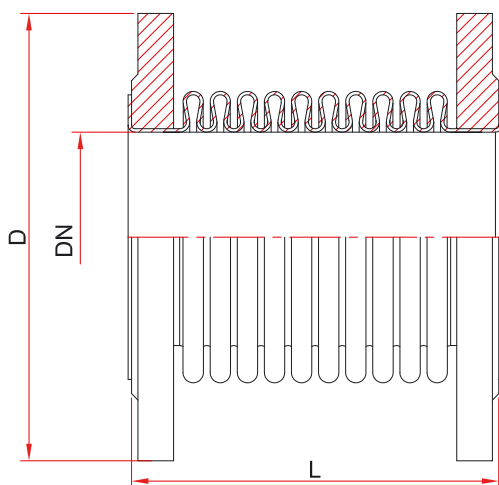
MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

- For proper use and safety precautions please follow the installation and operating instructions.

Technical Details & Drawing, Dimensions



ROTARY / FIXED FLANGED					
DN	DIMENSION			RATINGS	
mm	D	L +/-5	Expansion Range	Effective Area cm ²	Weight kg
32	140	125	-20/+10	21	2,8
40	150	125	-20/+10	24	3,4
50	165	125	-20/+10	36	4,8
65	185	130 185	-20/+10 -40/+20	57	5,9 6,4
80	200	130 185	-20/+10 -40/+20	77	7,2 8,6
100	220	130 190	-20/+10 -40/+20	126	8,0 9,1
125	250	130 200	-20/+10 -40/+20	180	11,5 12,10
150	285	135 200	-20/+10 -40/+20	263	13,4 15,9
200	340	140 210	-20/+10 -40/+20	434	18,5 20,1
250	405	145 215	-20/+10 -40/+20	670	26,8 28,5

WELDING END					
DIMENSION				RATINGS	
D	d	L +/-5	Expansion Range	Effective Area cm ²	Weight kg
58	42,4	195	-20/+10	21	0,4
62	48,3	195	-20/+10	24	0,5
76	60,3	195	-20/+10	36	0,6
92	76,1	210 270	-20/+10 -40/+20	57	0,8 1,0
110	88,9	210 270	-20/+10 -40/+20	77	1,1 1,4
141	114,3	210 280	-20/+10 -40/+20	126	1,4 1,8
165	139,7	210 280	-20/+10 -40/+20	180	2,3 2,9
200	165,1	250 315	-20/+10 -40/+20	263	3,3 4,2
252	219,1	250 320	-20/+10 -40/+20	434	5,0 6,3
313	273	290 360	-20/+10 -40/+20	670	8,7 11

* Valves can be produced with bigger sizes when requested.

AXIAL EXPANSION JOINT

FAF5100

Installation

Preparation

Check compensator

- Check outside joint cover for damage

Check alignment

- Check the piping system for misalignment, as misalignment reduces the working range of the expansion joint

Check support

- Weight must not be carried by joint
- Support with hangers or anchors

Check flanges

- Clean all mating flanges surfaces
- Do not scratch or damage surfaces during cleaning

Inspection

- Stainless steel axial expansion joints should be inspected for any internal or external damage to the bellows convolutions.

Selection

- FAF Valve range of stainless steel axial expansion joints are designed to be used on a wide range of industrial applications. Check that the correct axial expansion joint has been selected for the operating conditions that exist. Temperature, pressure and movement should all be confirmed as the wrong selection may result in failure of the system. Check that the correct number of axial expansion joints are being installed to accommodate the total amount.

Installation

- Stainless steel axial expansion joints requiring Cold Draw will be supplied at their neutral length and should be extended on installation by up to 50% of their movement capability. If an expansion joint has been supplied with internal flow sleeve it should be installed with the in the correct flow direction. Bellows convolutions should be protected from damage during installation due to rotation or weld spatter etc. Stainless steel axial expansion joints should only be installed in straight pipework runs. Stainless steel axial expansion joints require anchors and guides to ensure their correct performance.
- Anchors and pipe guides are essential to ensure the correct performance of the axial expansion joints. Ensure that only one axial expansion joint is installed between anchors.
- Pipework should be correctly aligned with guides being installed to prevent buckling whilst allowing movement to be directed into the axial expansion joint. Remaining pipe guides should be installed as per specification or details given in guidance notes.

Test Pressure

If a hydraulic pressure test is to be carried out on a system containing axial expansion joints ensure that anchors and guides have been correctly fitted before the test is carried out. Ensure that the test pressure (usually 1.5 x working pressure) does not exceed the test pressure of the axial expansion joint being installed.

Anchoring

Axial expansion joints must be securely anchored and adequately guided to ensure their correct performance. Anchors must have sufficient strength to withstand the forces created by internal pressure, total pipe weight, thermal expansion and spring rate of the bellows. See guidance notes for details and calculations on anchoring of pipework. Anchors are used to divide the system into manageable sections. Anchors must be spaced to suit the axial expansion joints being installed.

Handling

- Do not lift with ropes or bars through the bolt holes. If lifting through the bore, use padding or a saddle to distribute the weight. Do not let expansion joints sit vertically on the edges of the flanges for any period of time.

Additional Tips

- If an expansion joint is to be installed underground, or will be submerged in water, contact the manufacturer for specific guidelines.
- If the expansion joint will be installed outdoors, make sure the cover material will withstand ozone, sunlight, etc. Materials such as Neoprene and Chlorobutyl are recommended. Materials painted with weather-resistant paint will give additional ozone and sunlight protection.
- Check the tightness of retaining rings two or three weeks after installation and retighten as necessary.

Service Conditions

Make sure the expansion joint rating for temperature, pressure, vacuum*, movements and selection of elastomeric materials match the system requirements. Contact FAF Valve if the system requirements exceed those of the expansion joint selected.

Alignment

- Expansion joints are not designed to make up for piping misalignment errors. Pipe misalignment should be no more than 1/8" in any direction. Misalignment of an expansion joint will reduce the rated movements and can induce severe stress of the material properties, thus causing reduced service life.

Anchoring

- Anchors are required whenever a piping system changes direction. Expansion joints should be located as close as possible to anchor points. If an anchoring system is not used, it is recommended that control rods be installed on the expansion joint to prevent excessive movements from occurring due to pressure thrust of the line.

Pipe Support

- Piping must be supported so expansion joints do not carry any pipe weight.

EXTERNALLY PRESSURIZED JOINT

FAF5200



Features

- FAF External Pressurized Expansion Joints are preferred in long pipelines in order to use less number of expansion joints used and to reduce number of fixed points and roller bearing that increase installation costs.
- Rotary Flange or welding end is produced in the joints.
- Absorbs high amounts of expansion consists of thermal difference.
- With the help of pressure balance maintained through fluid pressure affecting the outer bellow, sprain possibility on the bellow is prevented.
- Since bellow is isolated from environment is not affected by external forces.
- Twists that may occur is eliminated via pressure balance which is provided by fluid pressure to influence the outer surface of the bellows.
- Due to isolated from external environment the risk of impairment is put away because of external factors.
- Additionally they are favourable to be used for fluids like boiling oil in which high safety factors are preferred.
- Large amounts of axial movement can now be absorbed using a long bellows that would have otherwise squirmed.
- As assembly aids for pumps, fittings and plate heat exchangers.
- Expansion joints are used in lots of applications, where it concerns safety, health, environment, durability and lifetime. Bellows are made from stainless steel strip which is first welded to a thin walled tube and formed to a bellow afterwards.
- It can be manufactured as rotary flanges (FAF5411), welding ends (FAF5421)
- Stock piled for quick delivery.

Temperature

- -20, +430 °C

PRODUCTION STANDARDS

DN32 → DN250
PN 16

Design	DIN 30681
Connection	Flanged End EN 1092-1 / ISO 7005-1 Welding End EN 12627
Face to Face	DIN 30681
Marking	DIN 30681
Tests	DIN 30681

Product Description

FAF5200 External Pressurized Expansion Joint is preferred in pipelines that expansion arising from temperature differences.

Purpose

- Absorbs large amounts of axial compression and extension.
- Eliminates pressure instability.
- Does not restrain the pressure thrust
- Also absorbs pipeline expansion, compensates for misalignment, eliminates piping stresses.
- Ends costly failure and downtime caused by pipeline vibration transmissions
- Customized to solve your vibration problem

Versions

- Type: universal, lateral and angular expansion joints
- Pipe connection type: flanged, threaded
- Bellows structure: rated to the pressure and temperature load
- The externally pressurised expansion joints are customised solutions and are available in all dimensions, all sizes and all materials.

Scope of Application

- Steam
- Hot & cold water
- Potable Water
- Superheated Water
- Gas Networks
- Chemicals
- Pressurized Air
- Central heating
- Pumps & compressors

EXTERNALLY PRESSURIZED JOINT

FAF5200



MATERIAL SELECTION

Body	1.4301 - AISI 304 Stainless Steel
	1.4401 - AISI 316 Stainless Steel
	1.4541 - AISI 321 Stainless Steel

Flange	1.0037 - ST 37 Steel
	1.4301 - AISI 304 Stainless Steel
	1.4401 - AISI 316 Stainless Steel

Interior Pipe	1.0037 - ST 37 Steel
	1.4301 - AISI 304 Stainless Steel
	1.4401 - AISI 316 Stainless Steel

Exterior Pipe	1.0037 - ST 37 Steel
	1.4301 - AISI 304 Stainless Steel
	1.4401 - AISI 316 Stainless Steel

PRODUCTS MODEL CODES

FAF5211	External Pressurized Expansion Joint, Rotating Flanged, L= 30mm
FAF5212	External Pressurized Expansion Joint, Rotating Flanged, L= 60mm
FAF5213	External Pressurized Expansion Joint, Rotating Flanged, L= 90mm
FAF5214	External Pressurized Expansion Joint, Rotating Flanged, L= 120mm
FAF5221	External Pressurized Expansion Joint, Welding End, L= 30mm
FAF5222	External Pressurized Expansion Joint, Welding End, L= 60mm
FAF5223	External Pressurized Expansion Joint, Welding End, L= 90mm
FAF5224	External Pressurized Expansion Joint, Welding End, L= 120mm
FAF5000	RUBBER EXPANSION JOINT - LONG TYPE
FAF5100	AXIAL EXPANSION JOINT
FAF5300	ANGULAR EXPANSION JOINT
FAF5400	DILATATION EXPANSION JOINT
FAF5500	VIBRATION EXPANSION JOINT
FAF5600	DECORATIVE EXPANSION JOINT

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

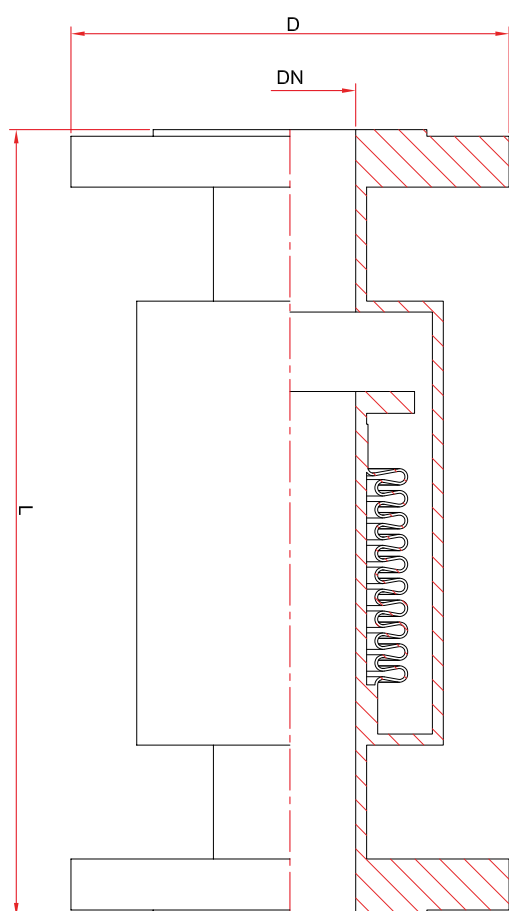
Note

- For proper use and safety precautions please follow the installation and operating instructions.

EXTERNALLY PRESSURIZED JOINT

FAF5200

Technical Details & Drawing, Dimensions



FLANGED EXPANSION JOINT				
DN	DIMENSION			RATINGS
mm	D	L +/-5	Expansion Range	Weight kg
32	140	295	-20/+10	5,4
		150	-40/+20	6,6
		165	-60/+30	7,8
40	150	295	-20/+10	6,7
		200	-40/+20	8,2
		220	-60/+30	9,6
50	165	300	-20/+10	9,5
		285	-40/+20	11,6
		340	-60/+30	13,7
65	185	310	-20/+10	11,0
		400	-40/+20	13,5
		515	-60/+30	16,0
80	200	315	-20/+10	14,5
		405	-40/+20	17,5
		525	-60/+30	20,7
100	220	315	-20/+10	18,2
		405	-40/+20	20,7
		525	-60/+30	24,3
125	250	325	-20/+10	24,7
		425	-40/+20	30,0
		535	-60/+30	35,3
150	285	335	-20/+10	28,0
		440	-40/+20	33,5
		550	-60/+30	41,0
200	340	390	-20/+10	50,0
		500	-40/+20	57,5
		610	-60/+30	70,5
250	405	390	-20/+10	61,8
		500	-40/+20	72,0
		610	-60/+30	93,5

* Valves can be produced with bigger sizes when requested.

ANGULAR EXPANSION JOINT

FAF5300



Features

- FAF External Pressurized Expansion Joints are preferred in long pipelines in order to use less number of expansion joints used and to reduce number of fixed points and roller bearing that increase installation costs.
- Rotary Flange or welding neck is produced in the joints.
- Absorbs high amounts of expansion consists of thermal difference.
- With the help of pressure balance maintained through fluid pressure affecting the outer bellow, sprain possibility on the bellow is prevented.
- Since bellow is isolated from environment is not affected by external forces.
- Twists that may occur is eliminated via pressure balance which is provided by fluid pressure to influence the outer surface of the bellows.
- Due to isolated from external environment the risk of impairment is put away because of external factors.
- Additionally they are favourable to be used for fluids like boiling oil in which high safety factors are preferred.
- Large amounts of axial movement can now be absorbed using a long bellows that would have otherwise squirmed.
- As assembly aids for pumps, fittings and plate heat exchangers.
- Expansion joints are used in lots of applications, where it concerns safety, health, environment, durability and lifetime. Bellows are made from stainless steel strip which is first welded to a thin walled tube and formed to a bellow afterwards.
- It can be manufactured as rotary flanges (FAF5210), welding ends (FAF5220)
- Stock piled for quick delivery.

Temperature

- -20, +430 °C

PRODUCTION STANDARTS

DN32 → DN250
PN 16

Design	DIN 30681
Connection	Flanged End EN 1092-1 / ISO 7005-1 Welding End EN 12627
Face to Face	DIN 30681
Marking	EN 19 / DIN 30681
Tests	DIN 30681

Product Description

FAF5200 External Pressurized Expansion Joint is preferred in pipelines that expansion arising from temperature differences.

Purpose

- Absorbs large amounts of axial compression and extension.
- Eliminates pressure instability.
- Does not restrain the pressure thrust
- Also absorbs pipeline expansion, compensates for misalignment, eliminates piping stresses.
- Ends costly failure and downtime caused by pipeline vibration transmissions
- Customized to solve your vibration problem

Versions

- Type: universal, lateral and angular expansion joints
- Pipe connection type: flanged, threaded
- Bellows structure: rated to the pressure and temperature load
- The externally pressurised expansion joints are customised solutions and are available in all dimensions, all sizes and all materials.

Scope of Application

- Steam
- Hot & cold water
- Potable Water
- Superheated Water
- Gas Networks
- Chemicals
- Pressurized Air
- Central heating
- Pumps & compressors

ANGULAR EXPANSION JOINT

FAF5300

MATERIAL SELECTION

Bellow	1.4301 - AISI 304 Stainless Steel
	1.4401 - AISI 316 Stainless Steel
	1.4541 - AISI 321 Stainless Steel

Body	1.0037 - ST 37 Steel
	1.4301 - AISI 304 Stainless Steel
	1.4401 - AISI 316 Stainless Steel

Flange	1.0037 - ST 37 Steel
	1.4301 - AISI 304 Stainless Steel
	1.4401 - AISI 316 Stainless Steel

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

- For proper use and safety precautions please follow the installation and operating instructions.

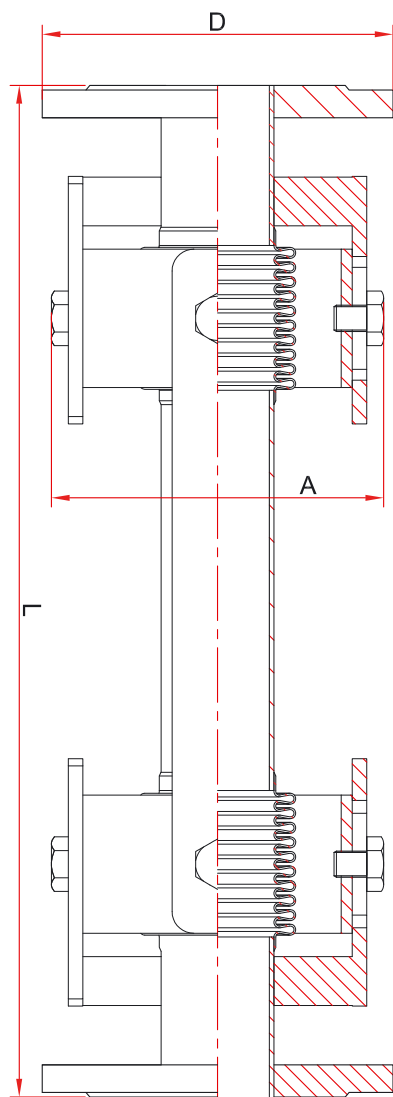
PRODUCTS MODEL CODES

FAF5311	Angular Expansion Joint, Flanged, 50-100mm
FAF5312	Angular Expansion Joint, Flanged, 100-100mm
FAF5313	Angular Expansion Joint, Flanged, 100-150mm
FAF5314	Angular Expansion Joint, Flanged, 100-200mm
FAF5321	Angular Expansion Joint, Welding End, 50-100mm
FAF5322	Angular Expansion Joint, Welding End, 100-100mm
FAF5323	Angular Expansion Joint, Welding End, 100-150mm
FAF5324	Angular Expansion Joint, Welding End, 100-200mm
FAF5000	RUBBER EXPANSION JOINT - LONG TYPE
FAF5100	AXIAL EXPANSION JOINT
FAF5200	EXTERNAL PRESSURIZED EXPANSION JOINT
FAF5400	DILATATION EXPANSION JOINT
FAF5500	VIBRATION EXPANSION JOINT
FAF5600	DECORATIVE EXPANSION JOINT

ANGULAR EXPANSION JOINT

FAF5300

Technical Details & Drawing, Dimensions



DN	WELDING END ANGULAR EXPANSION JOINT						
	DIMENSION						
	A	d	Expansion Range and Length (L +/- 5)				
mm			X	Y,Z: +/- 50	Y,Z: +/- 100	Y,Z: +/- 150	Y,Z: +/- 200
32	135	42,4	100	715	915	1115	1315
40	135	48,3	100	715	915	1115	1315
50	150	60,3	100	780	980	1180	1380
65	165	76,1	100	780	980	1230	1480
80	205	88,9	100	830	1030	1280	1530
100	255	114,3	100	830	1030	1280	1530
125	285	139,7	100	960	1160	1460	1760
150	370	165,1	100	960	1160	1460	1760
200	405	219,1	100	1150	1350	1700	2050
250	455	273	100	1150	1350	1700	2050

FLANGED ANGULAR EXPANSION JOINT							Effective Area cm ²
DIMENSION							
D	A	Expansion Range and Length (L +/- 5)					
		X	Y,Z: +/- 50	Y,Z +/- 100	Y,Z +/- 150	Y,Z +/- 200	
140	135	100	725	925	1125	1325	21
150	135	100	725	925	1125	1325	24
165	150	100	790	990	1190	1390	36
185	165	100	790	990	1240	1490	57
200	205	100	840	1040	1290	1540	77
220	255	100	840	1040	1290	1540	126
250	285	100	970	1170	1470	1770	180
285	370	100	970	1170	1470	1770	263
340	405	100	1160	1360	1710	2060	434
405	455	100	1160	1360	1710	2060	670

* Valves can be produced with bigger sizes when requested.

DILATATION EXPANSION JOINT

FAF5400



Features

- Consisting of two bellows are separated by an intermediate pipeline universal compensator.
- Used for absorbing large lateral movements.
- In general, after crossing points on the basis of buildings with different floor exercises and building collapses it is used to prevent damage to the existing pipeline.
- The expansion joint allows large lateral movement in all planes, this movement can be increased by increasing the length of the central pipe.
- Can take greater axial, lateral and angular movements than a single tied expansion joint.
- If the universal tied expansion joint is designed with only two tie rods, equally spaced @ 180 degree, the expansion joint will take both lateral and angular movements.
- To restrict the angular movement, four tie rods are provided at interval of 90 degrees, around the circumference of the expansion joint.
- If more than two tie rods are used then this kind of expansion joint will only take lateral movement.
- Generally used in transition points of the buildings which has different base levels, in ground movements and to avoid pipeline damages after building collapses.
- Usually are provided with control rods to distribute the movement equally between the two bellows. Control rods are not designed to withstand pressure thrust.
- Can be manufactured in flanged type (FAF5410) and welding ne-type (FAF5420)
- Stock piled for quick delivery.

Temperature

- -20, +430 °C

PRODUCTION STANDARTS

DN32 → DN250
PN 16

Design	DIN 30681
Connection	Flanged End EN 1092-1 / ISO 7005-1 Welding End EN 12627
Face to Face	DIN 30681
Marking	EN 19 / DIN 30681
Tests	DIN 30681
Corrosion Protection	Electrostatic Epoxy

Product Description

FAF5400 Dilatation Expansion Joints also named as universal expansion joints are made of two bellows separated by an intermediary pipe relieves the stress that may occur on the pipeline by absorbing wide lateral movements.

Advantages

- Simple and robust construction
- Absorbs large amount of lateral, angular and axial movements
- Inexpensive
- Easy to install
- Low maintenance

Versions

- Type: universal, lateral and angular expansion joints
- Pipe connection type: flanged, threaded
- Rubber quality of the bellows: rated to the media transported in the pipes
- Bellows structure: rated to the pressure and temperature load

Scope of Application

- Dilatation
- Fire fighting installations
- Pipelines
- Storage tanks
- Heat exchangers
- Pumps & compressors

DILATATION EXPANSION JOINT

FAF5400

PRODUCTS MODEL CODES

FAF5411	Dilatation Expansion Joint, Flanged, A:30mm, L:25mm
FAF5412	Dilatation Expansion Joint, Flanged, A:30mm, L:50mm
FAF5413	Dilatation Expansion Joint, Flanged, A:30mm, L:75mm
FAF5414	Dilatation Expansion Joint, Flanged, A:30mm, L:100mm
FAF5415	Dilatation Expansion Joint, Flanged, A:60mm, L:25mm
FAF5416	Dilatation Expansion Joint, Flanged, A:60mm, L:50mm
FAF5417	Dilatation Expansion Joint, Flanged, A:60mm, L:75mm
FAF5418	Dilatation Expansion Joint, Flanged, A:60mm, L:100mm
FAF5421	Dilatation Expansion Joint, Welded, A:30mm, L:25mm
FAF5422	Dilatation Expansion Joint, Welded, A:30mm, L:50mm
FAF5423	Dilatation Expansion Joint, Welded, A:30mm, L:75mm
FAF5424	Dilatation Expansion Joint, Welded, A:30mm, L:100mm
FAF5425	Dilatation Expansion Joint, Welded, A:60mm, L:25mm
FAF5426	Dilatation Expansion Joint, Welded, A:60mm, L:50mm
FAF5427	Dilatation Expansion Joint, Welded, A:60mm, L:75mm
FAF5428	Dilatation Expansion Joint, Welded, A:60mm, L:100mm
FAF5000	RUBBER EXPANSION JOINT - LONG TYPE
FAF5100	AXIAL EXPANSION JOINT
FAF5200	EXTERNALLY PRESSURIZED EXPANSION JOINT
FAF5300	EXTERNAL PRESSURIZED EXPANSION JOINT
FAF5500	VIBRATION EXPANSION JOINT
FAF5600	DECORATIVE EXPANSION JOINT

MATERIAL SELECTION

Bellow	1.4301 - AISI 304 Stainless Steel
	1.4401 - AISI 316 Stainless Steel
	1.4541 - AISI 321 Stainless Steel

Body	1.0037 - ST 37 Steel
	1.4301 - AISI 304 Stainless Steel
	1.4401 - AISI 316 Stainless Steel

Flange	1.0037 - ST 37 Steel
	1.4301 - AISI 304 Stainless Steel
	1.4401 - AISI 316 Stainless Steel

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

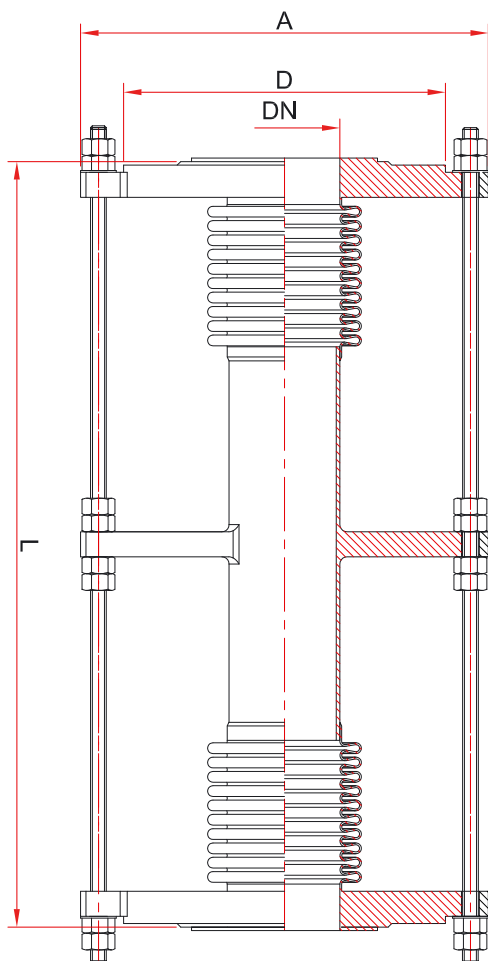
Note

- For proper use and safety precautions please follow the installation and operating instructions.

DILATATION EXPANSION JOINT

FAF5400

Technical Details & Drawing, Dimensions



DN	WELDING END ANGULAR EXPANSION JOINT						
	DIMENSION						
	Expansion Range and Length (L +/- 5)						
mm	A	d	X	Y,Z: +/- 25	Y,Z: +/- 50	Y,Z: +/- 75	Y,Z: +/- 100
32	130	42,4	30	520	620	720	820
40	135	48,3	30	530	630	730	830
50	160	60,3	30	580	680	780	880
65	185	76,1	60	590	690	790	890
80	220	88,9	60	630	730	830	930
100	255	114,3	60	630	730	830	930
125	280	139,7	60	680	850	950	1050
150	335	165,1	60	680	850	950	1050
200	410	219,1	60	750	920	1020	1120
250	490	273	60	820	1000	1100	1200

FLANGED DILATATION EXPANSION JOINT							Effective Area cm ²
DIMENSION							
D	A	Expansion Range and Length (L +/- 5)					
		X	Y: +/- 25	Y: +/- 50	Y: +/- 75	Y: +/- 100	
140	200	30	250	350	450	550	21
150	210	30	260	360	460	560	24
165	235	30	320	420	520	620	36
185	255	60	330	430	530	630	57
200	290	60	370	470	570	670	77
220	310	60	370	470	570	670	126
250	340	60	430	600	700	800	180
285	395	60	430	600	700	800	263
340	470	60	500	670	770	870	434
405	555	60	570	750	850	950	670

* Valves can be produced with bigger sizes when requested.

VIBRATION EXPANSION JOINT

FAF5500



Features

- These absorbers, which have compact and flexible structure, can be replaced with rubber joints in high pressures and pump connection installations where corrosive fluids are used.
- Made of multilayer bellows with compact structure.
- Often used in order to eliminate vibration at the pump inlet and outlet.
- High pressure and cavitation replaces rubber expansion joints in the flow.
- Limit rods absorb unwanted forces caused by the axial movement limiting fluid pressure. Therefore, the fixed support (support) is not required.
- The forces caused by flow pressure are eliminated through limiting the axial movements by the existing limit rods and the need for fixed support is eliminated.
- Because of assembling without weld, there is no material deterioration by welding.
- The standard range is made from multi-ply bellows with several very thin layers of stainless steel. This delivers maximum performance regarding: pressure and temperature bearing capacity, noise and vibration absorption and overall cyclic service life.
- The range of vibration absorbers can resolve any problems related to mechanical vibration and have a higher pressure and temperature capacity than rubber bellows.
- Unlike rubber expansion joints, stainless steel bellows do not suffer from atmospheric damage when used in an outdoor installation.
- Stock piled for quick delivery.

Temperature

- -20, +430 °C

PRODUCTION STANDARTS

DN32 → DN250
PN 16

Design	DIN 30681
Connection	FLANGED EN 1092-1 / ISO 7005-1
Face to Face	DIN 30681
Marking	EN 19 / DIN 30681
Tests	DIN 30681
Corrosion Protection	Electrostatic Epoxy

Product Description

FAF5500 Vibration Absorber Expansion Joint is used at absorption-pressure lines for purpose of isolation of vibration and generally manufactured of two-ply bellows.

Advantages

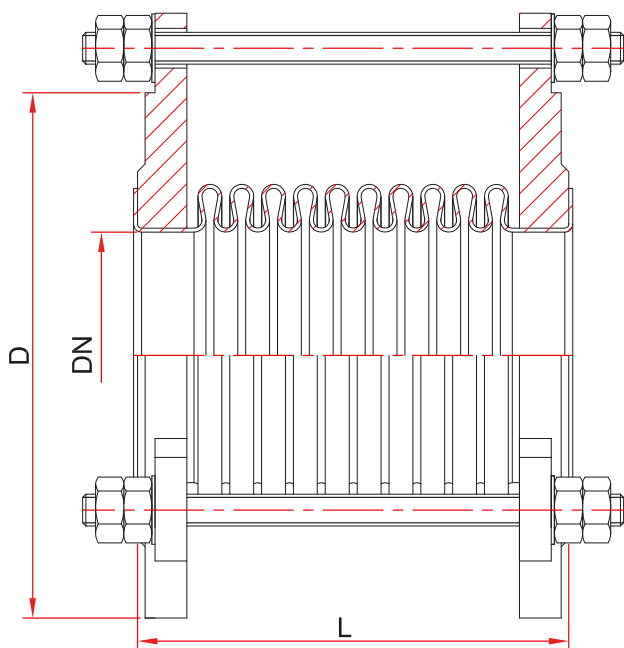
- Simple and robust construction
- Absorbs large amount of lateral, angular and axial movements
- Inexpensive
- Easy to install
- Low maintenance

Scope of Application

- Hot & cold water
- Superheated water
- Potable water
- Steam
- Gas networks
- Chemicals
- Pressurized Air
- Heat exchangers
- Pumps & compressors

VIBRATION EXPANSION JOINT

FAF5500



MATERIAL SELECTION

Bellow	1.4301 - AISI 304 Stainless Steel
	1.4401 - AISI 316 Stainless Steel
	1.4541 - AISI 321 Stainless Steel

Body	1.0037 - ST 37 Steel
	1.4301 - AISI 304 Stainless Steel
	1.4401 - AISI 316 Stainless Steel

Flange	1.0037 - ST 37 Steel
	1.4301 - AISI 304 Stainless Steel
	1.4401 - AISI 316 Stainless Steel

PRODUCTS MODEL CODES

FAF5500	VIBRATION EXPANSION JOINT, Flanged
FAF5520	VIBRATION EXPANSION JOINT, Welding End
FAF5000	RUBBER EXPANSION JOINT - LONG TYPE
FAF5100	AXIAL EXPANSION JOINT
FAF5200	EXTERNALLY PRESSURIZED EXPANSION JOINT
FAF5300	EXTERNAL PRESSURIZED EXPANSION JOINT
FAF5400	DILATATION EXPANSION JOINT
FAF5600	DECORATIVE EXPANSION JOINT

VALVE TEST PRESSURE (Bar)

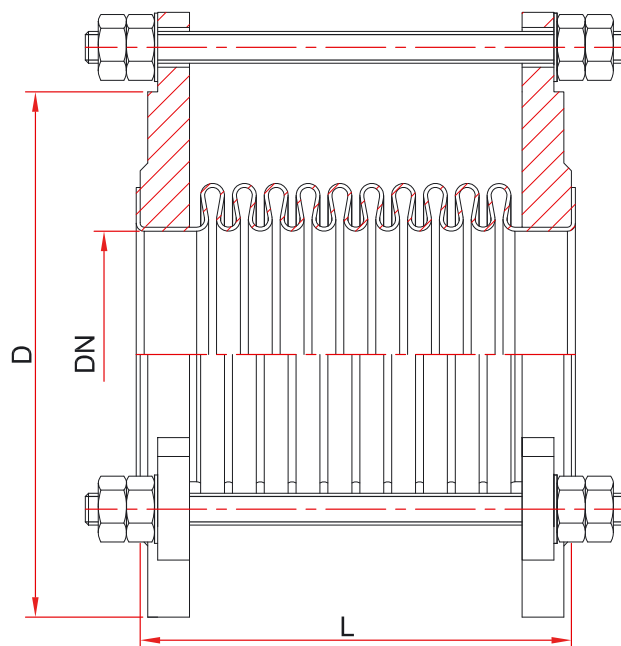
MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

- For proper use and safety precautions please follow the installation and operating instructions.

Technical Details & Drawing, Dimensions



DN	DIMENSION			RATINGS		BOLT DIMENSION	BOLT / NUT QTY	FASTENING MOMENT Nm	WRENCH SIZE (mm)
mm	D	L +/-5	Expansion Range	Effective Area cm ²	Weight kg				
32	140	130	-20/+10	21	3,2	M16X60	4X2	205	24
40	150	130	-20/+10	24	4,1	M16X60	4X2	205	24
50	165	130	-20/+10	36	5,5	M16X60	4X2	205	24
65	185	135	-20/+10	57	6,7	M16X60	4X2	205	24
80	200	135	-20/+10	77	8,8	M16X65	8X2	205	24
100	220	135	-20/+10	126	9,5	M16X65	8X2	205	24
125	250	135	-20/+10	180	12,5	M16X70	8X2	205	24
150	285	140	-20/+10	263	16,0	M20X75	8X2	400	30
200	340	145	-20/+10	434	22,00	M20X80	12X2	400	30
250	405	150	-20/+10	670	27,5	M24X90	12X2	691	36

* Valves can be produced with bigger sizes when requested.

RESILIENT SEATED GATE VALVE

FAF 6000



Features

- 100% tight sealing is achieved through EPDM covered wedge fully contacting the fusion bonded epoxy coated flow surface.
- The body and bonnet are manufactured from ductile iron castings. It is resistant to high tensile stress occurring in pipelines.
- Low operating torque due to plastic sliding guides on the wedge
- Maintenance-free and corrosion-resistant stem sealing.
- With O-ring sealing.
- Up to DN 300 (inclusive) sizes are supplied with hand wheel as default DN 350 (inclusive) and above can be supplied with gear box as optional.
- Large conical stem hole in the wedge prevents stagnant water.
- Wedge and body guide rails ensure stable operation.
- Stainless steel stem with rolled threads for high strength & low operation torque.
- Inner and outer surfaces are coated with minimum 250 microns fusion bonded epoxy. 300 microns is available
- Suitable to use with aboveground and underground applications. Can be operated with actuator, gearbox, handwheel and extension spindle.
- The top of the shaft bearing and shaft nuts are made of MS58 brass. High precision machining enables low operation torques.
- Full bore characteristics without disruption of flow results in low pressure drops across the valve.

Temperature

- +130 °C (EPDM)

PRODUCTION STANDARTS

DN40 → DN800
PN 10-16-25

Design	EN 1171 / EN 1074
Connection	EN 1092-2 ISO7005-2 Flanged
Face to Face	EN 558 Series 14 DIN3202 F4
Marking	EN 19
Tests	EN 12266-1
Corrosion Protection	Electrostatic Powder Epoxy WRAS Approved (Optional)

Product Description

FAF6000 Resilient-seated gate valve with bolted cover connection; made of premium materials and with special coating designed as both clockwise (default) and anti-clockwise directions. (optinal)

Versions

- Standard version with handwheel
- Standard version without handwheel
- With ISO top flange and gearbox
- Ready for actuator connection
- With operation cap
- With top flange ready for actuator connection
- With electrical actuator

Accessories

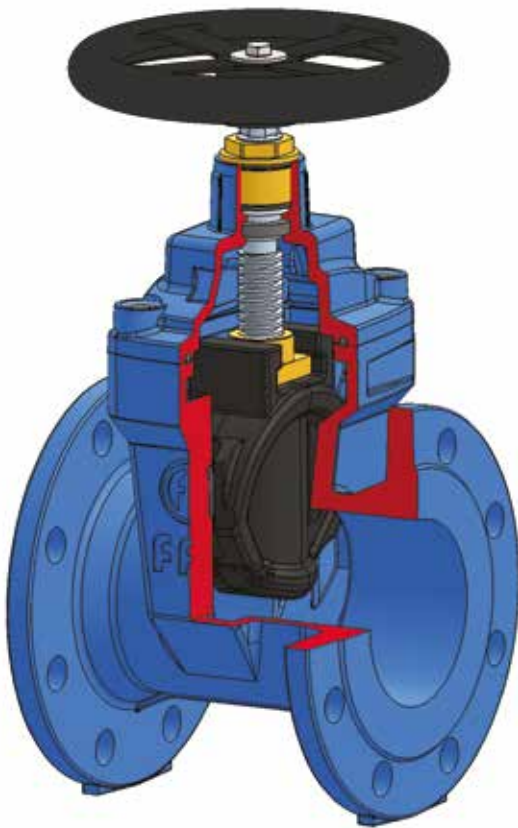
- T-key, FAF7250T
- Telescopic extension spindle ST37 steel, FAF7250
- Rigid extension spindle
- Surface box cast iron, FAF7250K
- Flange adaptors, FAF3960
- Dismantling joints, FAF3900
- Handwheels

Scope of Application

- Pipelines
- Water treatment plants
- Pumping stations
- Tanks
- Seawater applications
- Power plants (cooling water pipelines)
- Industry

RESILIENT SEATED GATE VALVE

FAF 6000



MATERIAL SELECTION

Body	EN-GJS-500 Ductile Iron / GGG50
Bonnet	EN-GJS-500 Ductile Iron / GGG50
Stem	1.4021 - AISI 420 Stainless Steel 1.4301 - AISI 304 Stainless Steel (Optional) 1.4401 - AISI 316 Stainless Steel (Optional)
Sealing	EPDM (Approved for potable water)
Coating	Electrostatic Powder Epoxy Approved For Drinking Water Min. 300 Microns (Optional)

PRODUCTS MODEL CODES

FAF6000	RESILIENT SEATED GATE VALVE - PN16
FAF6010	RESILIENT SEATED GATE VALVE - PN10
FAF6025	RESILIENT SEATED GATE VALVE - PN25
FAF6050	RESILIENT SEATED GATE VALVE - BS 5163

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6
25	37,5	27,5

100% of the valves are subjected to hydrostatic tests at FAF facilities.

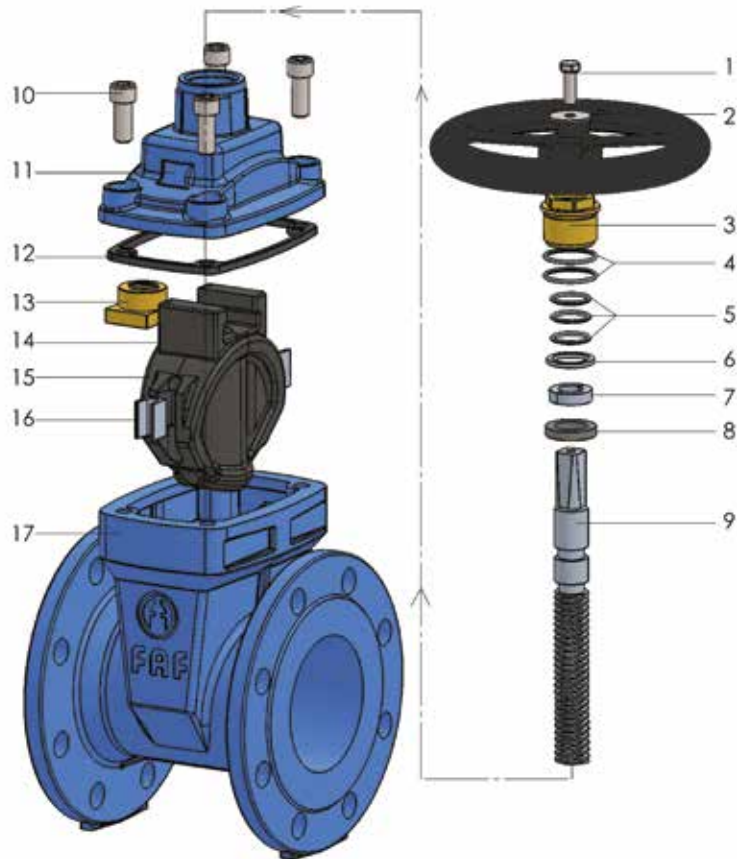
Note

- For proper use and safety precautions please follow the installation and opening instructions.

RESILIENT SEATED GATE VALVE

FAF 6000

Material List

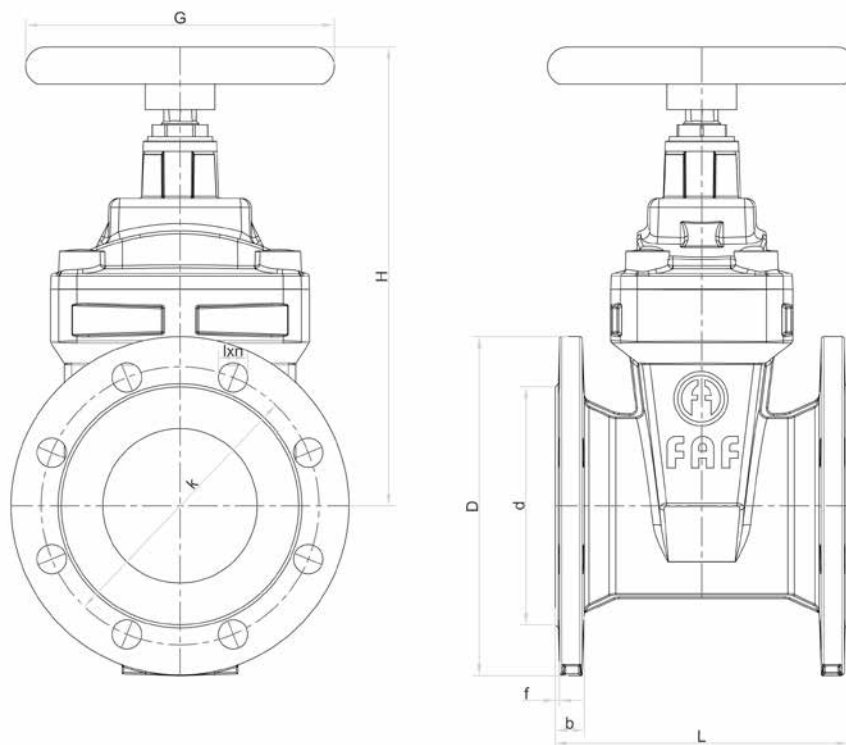


NO	ITEM	MATERIALS
1	BOLT	DIN 933 A2/A4
2	WASHER	STEEL
3	SHAFT NUT	CUZN40PB2 BRASS
4	O-RING	NBR/EPDM
5	O-RING	NBR/EPDM
6	WASHER	PTFE
7	WASHER	STEEL
8	NUTRING	EPDM
9	DRIVE SHAFT	AISI 420/304/316/316L
10	IMBUS BOLT	DIN 912 A2/A4
11	COVER	EN GJS 500 DUCTILE
12	COVER GASKET	EPDM
13	SLIDE NUT	CUZN40PB2 BRASS
14	WEDGE TOP	EPDM / NBR
15	WEDGE	EN GJS 500 DUCTILE
16	WEDGE GUIDE	POLYMER
17	BODY	EN GJS 500 DUCTILE

RESILIENT SEATED GATE VALVE

FAF 6000

Technical Details & Drawing, Dimensions



DN (mm)	PN	D	L	H	Kv (m³/h)	Torque (Nm)	f	b	G	d	k	Øxn	WEIGHT (kg)
40	10/16	150	140	210	140	45	3	19	160	84	110	4XØ19	8,5
50	10/16	165	150	230	220	52	3	19	160	99	125	4XØ19	9
65	10/16	185	170	265	370	57	3	19	180	118	145	4XØ19	11,9
80	10/16	200	180	285	560	65	3	19	200	132	160	8XØ19	14,5
100	10/16	220	190	325	880	70	3	19	200	156	180	8XØ19	18,9
125	10/16	250	200	350	1380	85	3	19	250	184	210	8XØ19	24,1
150	10/16	285	210	390	2300	115	3	19	250	211	240	8XØ23	31,7
200	10	340	230	500	4090	160	4	20	320	266	295	8XØ23	47,3
	16	340	230	500	4090	160	4	20	320	266	295	12XØ23	47,3
250	10	400	250	595	6390	325	4	22	350	319	350	12XØ23	83,7
	16	400	250	595	6390	325	4	22	350	319	355	12XØ28	83,7
300	10	455	270	675	9200	345	4	24.5	350	370	400	12XØ23	110
	16	455	270	675	9200	345	4	24.5	350	370	410	12XØ28	110
350	10	505	290	785	11370	460	4	24.5	450	429	460	16XØ23	190
	16	520	290	785	11370	460	4	26.5	450	429	470	16XØ28	190
400	10	565	310	900	16350	515	4	24.5	500	480	515	16XØ28	222
	16	580	310	900	16350	515	4	28	500	480	525	16XØ31	222
500	10	670	350	1000	25560	690	4	26.5	600	582	620	20XØ28	470
	16	715	350	1000	25560	690	4	31.5	600	609	650	20XØ34	470
600	10	780	390	1200	37000	1150	5	30	600	682	725	20XØ31	630
	16	840	390	1200	37000	1150	5	36	600	720	770	20XØ37	630

RESILIENT SEATED GATE VALVE

FAF 6000

Advantages of Resilient Seated Gate Valves

Resilient-seated gate valves are used for reliable and safe supply of hot&cold water, potable water, waste water management, and also for the supply of fire water.

Compared to metal seated gate valves, resilient seated gate valves have many advantages.

The body is relatively simple, the good casting process for a wide range. The sealing performance is very good, so that the sealing surface is less eroded when it's full open. Resilient-seated gate valves have good shutoff characteristics and bidirectional. The pressure loss through the valve is minimal.

Lighter, more durable, reduced carbon footprint.

Safety Manual for Maintenance, Inspection and Installation Works

For the trouble-free usage of resilient seated gate valves, this manual should be reviewed carefully and information supplied should be applied continuously.

Not following the safety instructions will cause below issues.

- Personal injuries,
- Danger for both environment and valve,
- Malfunction of the major valve / facility functions,
- Failure of the projected maintenance and repair applications,
- Danger to people connected to electrical, mechanical and chemical effects.
- Damage to the environment caused by dangerous leakage.

No modifications or changes can be made to the products supplied by FAF Valve Company. FAF Valve Company shall not be liable for any damage or damages that may result from the failure to comply with the information given in this manual or modification without prior authorization.

Installation, use and maintenance of the gate valves should be done with professionally trained people. Although all FAF VALVE products are manufactured in accordance with international regulations and standards, valves are potentially hazardous if not used properly or used for purposes other than their intended use. All responsible personnel for the storage, installation, use, maintenance and disassembly of the valves should carefully read and well understand this document. All international and local safety instructions must be reviewed and understood before taking any action on the valve or pipeline. All necessary precautions must be taken.

If any repairs are to be made, there should be no pressure on the pipeline, and if necessary, all fluid should be drained and warning signs should be placed around the working area.

Devices that can be remotely controlled, such as actuators should be switched to off position. Precautions should be taken to prevent operation of those kind of devices working with stored energy such as compressed air, pressurized water, hydraulic uninterruptible power supply, etc. If a drain valve is to be repaired or uninstalled, precautions must be taken to ensure that the working zone is suddenly filled with water.

The use of original spare parts will ensure the operational safety of the products. The manufacturer can not be held responsible for damage caused by use of non-original parts or accessories.

If a valve needs to be removed, the pipeline should be discharged. The necessary precautions should be taken due to the remaining fluid which will flow freely after the valve has been removed.

Avoid sudden movements during the lifting, moving and lowering of the valve. Sudden movements may damage the valve and/or lifting equipment. The lifting must only be done from the lifting lugs located on the body.

The valve may move involuntarily aside during the lifting operation with a crane. Lifting by crane should be done by a specialist personnel and no one other than the operator should enter the working area during the operation.

Any operation on the actuated valve can be done after the actuator has been removed from the power supply. The procedure described in the operating instructions must be followed to switch off the actuator.

RESILIENT SEATED GATE VALVE

FAF 6000

Operating Instructions

Inspection On Delivery

1. Check for possible damage in shipment, conformance to specifications, opening direction, shortages, etc.
2. Carefully unload all valves - do not drop valve - do not lift valve using gearing, bypass or other appendage as a hook.
3. Valve should be opened and then closed to make sure it works properly. Also check opening direction against the order instruction.
4. Any problems should be reported immediately to delivery company and note on bill of lading, signed by the driver on customer's copy.

Inspection Before Installation

1. Check to see the valve end-joints are clean.
2. The valve should not be damaged.
3. Open and close valve - make sure it works properly.
4. Keep valve closed when placing in trench.
5. Inspect casting for damage.
6. Inspect epoxy coating and repair breaks using compatible coating material.

Testing

1. Do not backfill valves before hydrostatic system test. Leave the valves exposed while the pipeline is being pressurized. Check to see that all valve joints and pressure containing bolting, including bonnet bolts, are tight.
2. Valves can be tested (but not operated) at 1,1 times the rated pressure of the valve.
3. After testing, steps should be taken to relieve any trapped pressure in body of valves.

Storage

1. Valves should be stored in a partially open position.
2. When possible, keep valves out of the weather.
3. In cold climates the inside of the valve must be kept drained of any water to prevent freezing.
4. When stored outside, valve stem should be in a vertical position, and whenever possible, valves should be covered with a water-proof covering.
5. Protect all parts of the valve at all times.
6. Protect rubber seat of resilient wedge valves from ozone and hydrocarbons (solvents, paints and oils, etc.).

Installation

1. Flush the water line completely.
2. Handle valve carefully.
3. Prepare pipe ends in accordance with pipe manufacturers' instructions.
4. Install valve using appropriate instructions for the specified joint (flanged, mechanical joint, slip-on, etc.).
5. Water piping should be properly supported to avoid line stress on valve.
6. In buried applications, make sure that the valve box does not transmit traffic loads or other stress to the valve.
7. Do not use valves to force a pipeline into position.
8. Do not deflect any valve/pipeline joint.
9. Protect exterior epoxy coating during backfill.

Operation

The operation of a resilient wedge valve will "feel" different to the valve operator compared to an older style double-disc gate valve. In normal circumstances, less operating torque is required as the resilient wedge valve just closes, or on opening. Valve operators should be instructed to adhere to the 'number of turns to open' for the size of valve in question rather than rely only upon the feel of the valve

Associated Products for the Resilient Seated Gate Valve Range



3900
DISMANTLING JOINT



7250
EXTENSION SPINDLE
SURFACE BOX



HANDWHEEL



STEM CAP



3800 BUTTERFLY
VALVE FLANGED
DOUBLE ECCENTRIC



2500
Y-TYPE STRAINER



2350
CHECK VALVE
DUAL



7330
DYNAMIC ARV



5000
RUBBER
EXPANSION JOINT



2270
CHECK VALVE
SWING



3960
FLANGE ADAPTOR



3970
COUPLING

RESILIENT SEATED GATE VALVE

FAF 6200



Features

- 100% tight sealing is achieved through EPDM covered wedge fully contacting the fusion bonded epoxy coated flow surface.
- The body and bonnet are manufactured from ductile iron castings. It is resistant to high tensile stress occurring in pipelines.
- Low operating torque due to plastic sliding guides on the wedge
- Maintenance-free and corrosion-resistant stem sealing.
- With O-ring sealing.
- Up to DN 300 (inclusive) sizes are supplied with hand wheel as default DN 350 (inclusive) and above can be supplied with gear box as optional.
- Large conical stem hole in the wedge prevents stagnant water.
- Wedge and body guide rails ensure stable operation.
- Stainless steel stem with rolled threads for high strength & low operation torque.
- Inner and outer surfaces are coated with minimum 250 microns fusion bonded epoxy. 300 microns is available
- Suitable to use with aboveground and underground applications. Can be operated with actuator, gearbox, handwheel and extension spindle.
- The top of the shaft bearing and shaft nuts are made of MS58 brass. High precision machining enables low operation torques.
- Full bore characteristics without disruption of flow results in low pressure drops across the valve.

Temperature

- +130 °C (EPDM)

PRODUCTION STANDARTS

DN40 → DN800
PN 10-16

Design	EN 1171 / EN 1074
Connection	EN 1092-2 / ISO 7005-2 - Flanged
Face to Face	EN 558 Series 15 / DIN 3202 F5
Marking	EN 19
Tests	EN 12266-1
Corrosion Protection	Electrostatic Powder Epoxy WRAS Approved (Optional)

Product Description

FAF6200 Resilient-seated gate valve with bolted cover connection; made of premium materials and with special coating designed as both clockwise (default) and anti-clockwise directions. (optinal)

Versions

- Standard version with handwheel
- Standard version without handwheel
- With ISO top flange and gearbox
- Ready for actuator connection
- With operation cap
- With top flange ready for actuator connection
- With electrical actuator

Accessories

- T-key, FAF7250T
- Telescopic extension spindle ST37 steel, FAF7250
- Rigid extension spindle
- Surface box cast iron, FAF7250K
- Flange adaptors, FAF3960
- Dismantling joints, FAF3900
- Handwheels

Scope of Application

- Pipelines
- Water treatment plants
- Pumping stations
- Tanks
- Seawater applications
- Power plants (cooling water pipelines)
- Industry

RESILIENT SEATED GATE VALVE

FAF 6200

MATERIAL SELECTION

Body	EN-GJS-500 Ductile Iron / GGG50
Bonnet	EN-GJS-500 Ductile Iron / GGG50
Stem	1.4021 - AISI 420 Stainless Steel 1.4301 - AISI 304 Stainless Steel (Optional) 1.4401 - AISI 316 Stainless Steel (Optional)
Sealing	EPDM (Approved for potable water)
Coating	Electrostatic Powder Epoxy Approved For Drinking Water Min. 300 Microns (Optional)

PRODUCTS MODEL CODES

FAF6200	RESILIENT GATE VALVE F5
FAF6000	RESILIENT GATE VALVE
FAF6050	RESILIENT GATE VALVE - BS 5163

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6
25	37,5	27,5

100% of the valves are subjected to hydrostatic tests at FAF facilities.

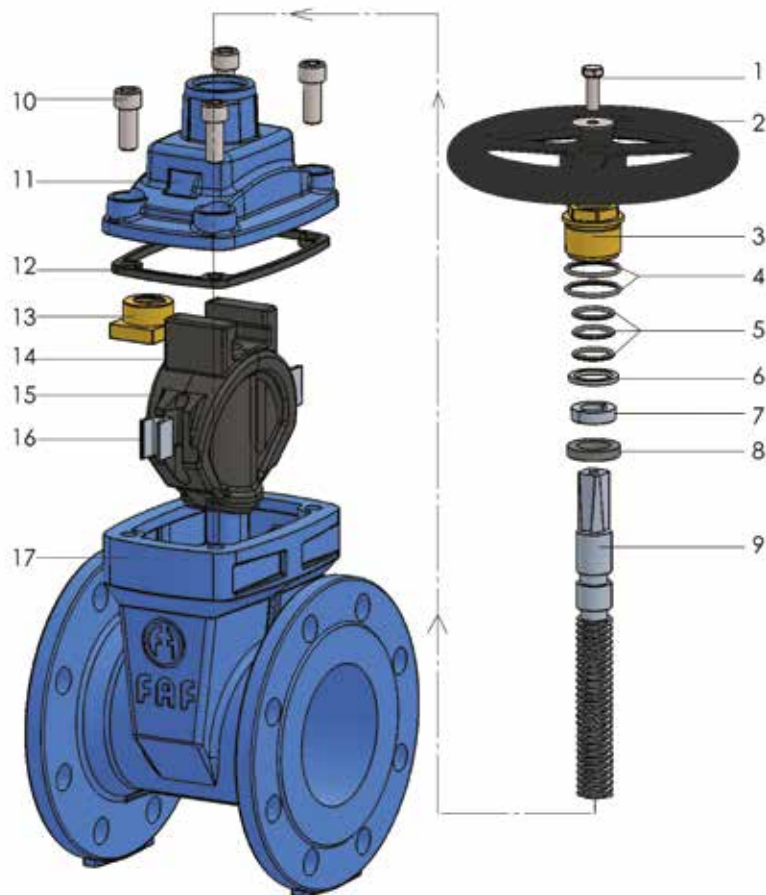
Note

- For proper use and safety precautions please follow the installation and operating instructions.

RESILIENT SEATED GATE VALVE

FAF 6200

Material List

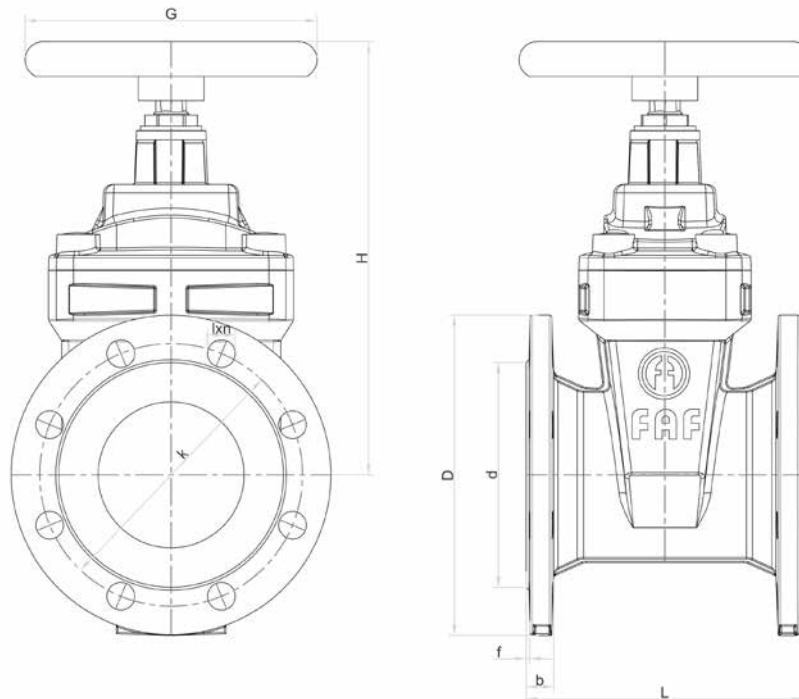


NO	ITEM	MATERIALS
1	BOLT	DIN 933 A2/A4
2	WASHER	STEEL
3	SHAFT NUT	CUZN40PB2 BRASS
4	O-RING	NBR/EPDM
5	O-RING	NBR/EPDM
6	WASHER	PTFE
7	WASHER	STEEL
8	NUTRING	EPDM
9	DRIVE SHAFT	AISI 420/304/316/316L
10	IMBUS BOLT	DIN 912 A2/A4
11	COVER	EN GJS 500 DUCTILE
12	COVER GASKET	EPDM
13	SLIDE NUT	CUZN40PB2 BRASS
14	WEDGE TOP	EPDM / NBR
15	WEDGE	EN GJS 500 DUCTILE
16	WEDGE GUIDE	POLYMER
17	BODY	EN GJS 500 DUCTILE

RESILIENT SEATED GATE VALVE

FAF 6200

Technical Details & Drawing, Dimensions



DN (mm)	PN	D	L	H	Kv (m³/h)	Torque (Nm)	f	b	G	d	k	Øxn	Weight KG
40	10/16	150	240	210	140	45	3	19	160	84	110	4XØ19	10,5
50	10/16	165	250	225	220	52	3	19	160	99	125	4XØ19	12
65	10/16	185	270	255	370	57	3	19	180	118	145	4XØ19	15
80	10/16	200	280	290	560	65	3	19	200	132	160	8XØ19	20
100	10/16	220	300	330	880	70	3	19	200	156	180	8XØ19	26
125	10/16	250	325	380	1380	85	3	19	250	184	210	8XØ19	39
150	10/16	285	350	415	2300	115	3	19	250	211	240	8XØ23	57
200	10	340	400	480	4090	160	4	20	320	266	295	8XØ23	90
	16	340	400	480	4090	160	4	20	320	266	295	12XØ23	90
250	10	400	450	555	6390	325	4	22	350	319	350	12XØ23	125
	16	400	450	555	6390	325	4	22	350	319	355	12XØ28	125
300	10	455	500	650	9200	345	4	24.5	350	370	400	12XØ23	135
	16	455	500	650	9200	345	4	24.5	350	370	410	12XØ28	135
350	10	505	550	775	11370	460	4	24.5	450	429	460	16XØ23	200
	16	520	550	775	11370	460	4	26.5	450	429	470	16XØ28	200
400	10	565	600	850	16350	515	4	24.5	500	480	515	16XØ28	350
	16	580	600	850	16350	515	4	28	500	480	525	16XØ31	350
500	10	670	700	1000	25560	690	4	26.5	600	582	620	20XØ28	500
	16	715	700	1000	25560	690	4	31.5	600	609	650	20XØ34	500
600	10	780	800	1200	37000	1150	5	30	600	682	725	20XØ31	1215
	16	840	800	1200	37000	1150	5	36	600	720	770	20XØ37	1215

RESILIENT SEATED GATE VALVE

FAF 6200

Advantages of Resilient Seated Gate Valves

Resilient-seated gate valves are used for reliable and safe supply of hot&cold water, potable water, waste water management, and also for the supply of fire water.

Compared to metal seated gate valves, resilient seated gate valves have many advantages.

The body is relatively simple, the good casting process for a wide range. The sealing performance is very good, so that the sealing surface is less eroded when it's full open. Resilient-seated gate valves have good shutoff characteristics and bidirectional. The pressure loss through the valve is minimal.

Lighter, more durable, reduced carbon footprint.

Safety Manual for Maintenance, Inspection and Installation Works

For the trouble-free usage of resilient seated gate valves, this manual should be reviewed carefully and information supplied should be applied continuously.

Not following the safety instructions will cause below issues.

- Personal injuries,
- Danger for both environment and valve,
- Malfunction of the major valve / facility functions,
- Failure of the projected maintenance and repair applications,
- Danger to people connected to electrical, mechanical and chemical effects.
- Damage to the environment caused by dangerous leakage.

No modifications or changes can be made to the products supplied by FAF Valve Company. FAF Valve Company shall not be liable for any damage or damages that may result from the failure to comply with the information given in this manual or modification without prior authorization.

Installation, use and maintenance of the gate valves should be done with professionally trained people. Although all FAF VALVE products are manufactured in accordance with international regulations and standards, valves are potentially hazardous if not used properly or used for purposes other than their intended use. All responsible personnel for the storage, installation, use, maintenance and disassembly of the valves should carefully read and well understand this document. All international and local safety instructions must be reviewed and understood before taking any action on the valve or pipeline. All necessary precautions must be taken.

If any repairs are to be made, there should be no pressure on the pipeline, and if necessary, all fluid should be drained and warning signs should be placed around the working area.

Devices that can be remotely controlled, such as actuators should be switched to off position. Precautions should be taken to prevent operation of those kind of devices working with stored energy such as compressed air, pressurized water, hydraulic uninterruptible power supply, etc. If a drain valve is to be repaired or uninstalled, precautions must be taken to ensure that the working zone is suddenly filled with water.

The use of original spare parts will ensure the operational safety of the products. The manufacturer can not be held responsible for damage caused by use of non-original parts or accessories.

If a valve needs to be removed, the pipeline should be discharged. The necessary precautions should be taken due to the remaining fluid which will flow freely after the valve has been removed.

Avoid sudden movements during the lifting, moving and lowering of the valve. Sudden movements may damage the valve and/or lifting equipment. The lifting must only be done from the lifting lugs located on the body.

The valve may move involuntarily aside during the lifting operation with a crane. Lifting by crane should be done by a specialist personnel and no one other than the operator should enter the working area during the operation.

Any operation on the actuated valve can be done after the actuator has been removed from the power supply. The procedure described in the operating instructions must be followed to switch off the actuator.

RESILIENT SEATED GATE VALVE

FAF 6200

Operating Instructions

Inspection On Delivery

1. Check for possible damage in shipment, conformance to specifications, opening direction, shortages, etc.
2. Carefully unload all valves - do not drop valve - do not lift valve using gearing, bypass or other appendage as a hook.
3. Valve should be opened and then closed to make sure it works properly. Also check opening direction against the order instruction.
4. Any problems should be reported immediately to delivery company and note on bill of lading, signed by the driver on customer's copy.

Inspection Before Installation

1. Check to see the valve end-joints are clean.
2. The valve should not be damaged.
3. Open and close valve - make sure it works properly.
4. Keep valve closed when placing in trench.
5. Inspect casting for damage.
6. Inspect epoxy coating and repair breaks using compatible coating material.

Testing

1. Do not backfill valves before hydrostatic system test. Leave the valves exposed while the pipeline is being pressurized. Check to see that all valve joints and pressure containing bolting, including bonnet bolts, are tight.
2. Valves can be tested (but not operated) at 1,1 times the rated pressure of the valve.
3. After testing, steps should be taken to relieve any trapped pressure in body of valves.

Storage

1. Valves should be stored in a partially open position.
2. When possible, keep valves out of the weather.
3. In cold climates the inside of the valve must be kept drained of any water to prevent freezing.
4. When stored outside, valve stem should be in a vertical position, and whenever possible, valves should be covered with a water-proof covering.
5. Protect all parts of the valve at all times.
6. Protect rubber seat of resilient wedge valves from ozone and hydrocarbons (solvents, paints and oils, etc.).

Installation

1. Flush the water line completely.
2. Handle valve carefully.
3. Prepare pipe ends in accordance with pipe manufacturers' instructions.
4. Install valve using appropriate instructions for the specified joint (flanged, mechanical joint, slip-on, etc.).
5. Water piping should be properly supported to avoid line stress on valve.
6. In buried applications, make sure that the valve box does not transmit traffic loads or other stress to the valve.
7. Do not use valves to force a pipeline into position.
8. Do not deflect any valve/pipeline joint.
9. Protect exterior epoxy coating during backfill.

Operation

The operation of a resilient wedge valve will "feel" different to the valve operator compared to an older style double-disc gate valve. In normal circumstances, less operating torque is required as the resilient wedge valve just closes, or on opening. Valve operators should be instructed to adhere to the 'number of turns to open' for the size of valve in question rather than rely only upon the feel of the valve

Associated Products for the Resilient Seated Gate Valve Range



3900
DISMANTLING JOINT



7250
EXTENSION SPINDLE
SURFACE BOX



HANDWHEEL



STEM CAP



3800 BUTTERFLY
VALVE FLANGED
DOUBLE ECCENTRIC



2500
Y-TYPE STRAINER



2350
CHECK VALVE
DUAL



7330
DYNAMIC ARV



5000
RUBBER
EXPANSION JOINT



2270
CHECK VALVE
SWING



3960
FLANGE ADAPTOR



3970
COUPLING

KNIFE GATE VALVE

FAF 6500



Features

- Uni-directional wafer type knife gate valve
- Can be installed both between two flanges, or, using an opposing flange, at the end of a pipeline.
- Bonnet sealing gasket can be replaced on the line.
- Suitable for actuated operation with additional top flange.
- Knife shaped wedge design, cutting the fiber fluids, makes it suitable to work in wastewater treatment plants, textile and food industries.
- EPDM rubber gasket seat is inserted inside the body cavity.
- With mechanical position indicator of the knife.
- Stem and gate connection is secured with self-locking nuts.
- Gate, stem, bolts and nuts of acid-resistant stainless steel.
- Slim design and low weight.
- Various seal and packing materials available.
- Manual (handwheel, chainwheel, lever and bevel gear), pneumatic (single and double-acting), electric and hydraulic actuation options available.
- Due to design, operating pressure is lower than nominal pressure for larger diameters. Please ask for technical support.

Temperature

- +130 °C (EPDM)

PRODUCTION STANDARTS

DN50 → DN600
PN 10

Connection	EN 1092-2 / ISO 7005-2
Face to Face	EN 558 Series
Marking	EN 19
Tests	EN 12266-1
Corrosion Protection	Electrostatic Powder Epoxy

Product Description

FAF6500 Knife Gate Valve is constituted by a gate which slides in a narrow body. The upper part of the gate, in closed or opened position, stands out from the body. This knife gate valve is suitable for liquids that contain a maximum of 5% suspended solids. If used for solids, recommend installing with the body are which indicates the contrary flow direction

Versions

- Rising stem
- Non-rising stem
- Standard version with hand wheel
- Prepared for electrical actuator
- With electrical actuator
- With gearbox IP68
- Custom production for specific orders

Accessories

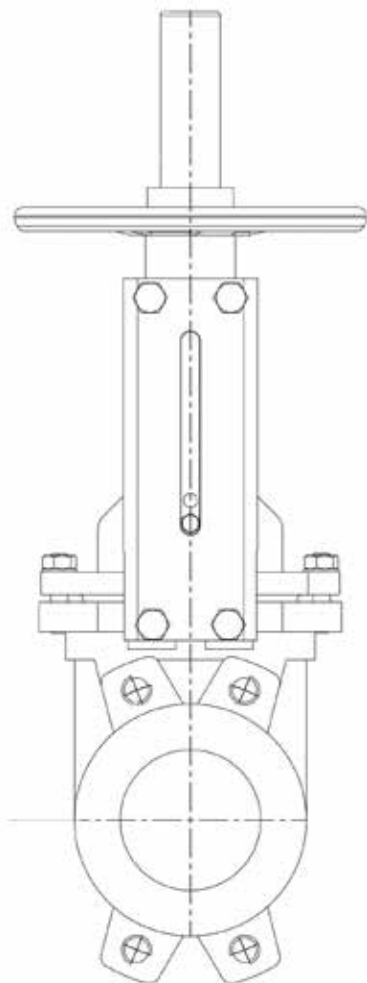
- T-key, FAF7250T
- Telescopic extension spindle ST37 steel, FAF7250
- Rigid extension spindle
- Surface box cast iron, FAF7250K
- Flange adaptors, FAF3960
- Dismantling joints, FAF3900
- Handwheels

Scope of Application

- Slurry fluids
- Waste, hot, cold water
- Installation in plants
- Water treatment plants
- Pumping stations
- Tanks
- Seawater applications
- Power plants (cooling water pipelines)
- Industrial applications

KNIFE GATE VALVE

FAF 6500



MATERIAL SELECTION

Body EN-GJS-500 Ductile Iron / GGG50

Disc 1.4301 - AISI 420 Stainless Steel

Stem 1.4021 - AISI 304 Stainless Steel
1.4301 - AISI 420 Stainless Steel

Sealing EPDM

Gearbox EN GJL 250 - ENCLOSURE CLASS - IP68

VALVE TEST PRESSURE (Bar)

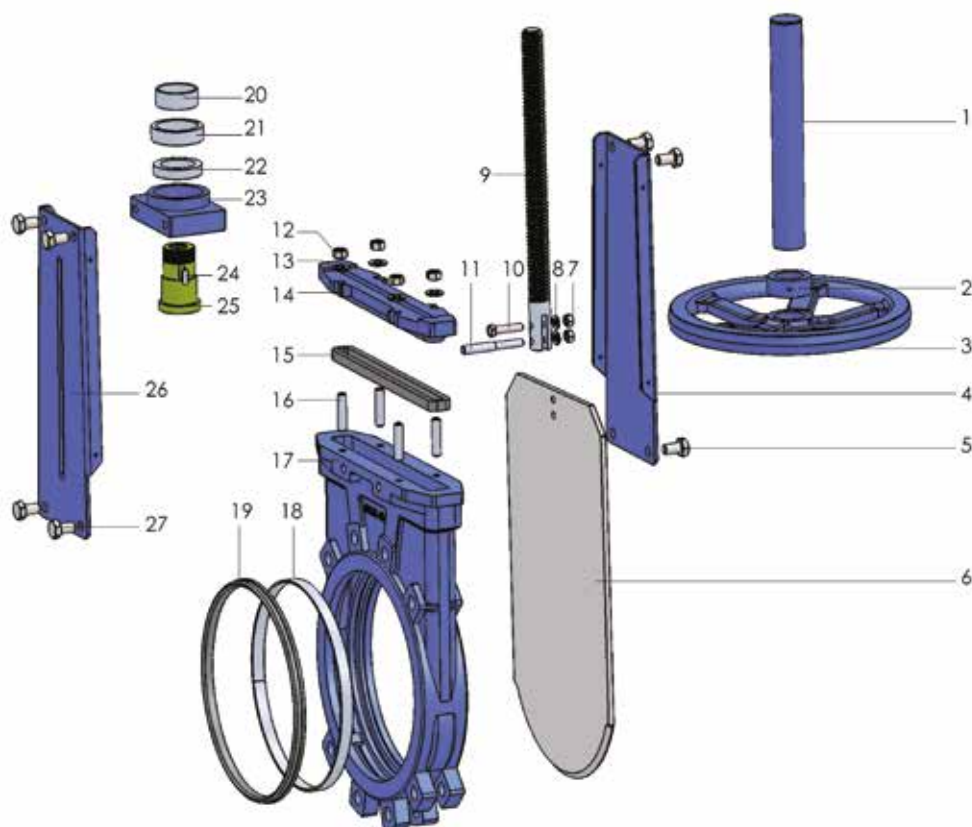
MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11

100% of the valves are subjected to hydrostatic tests at FAF facilities.

KNIFE GATE VALVE

FAF 6500

Material List



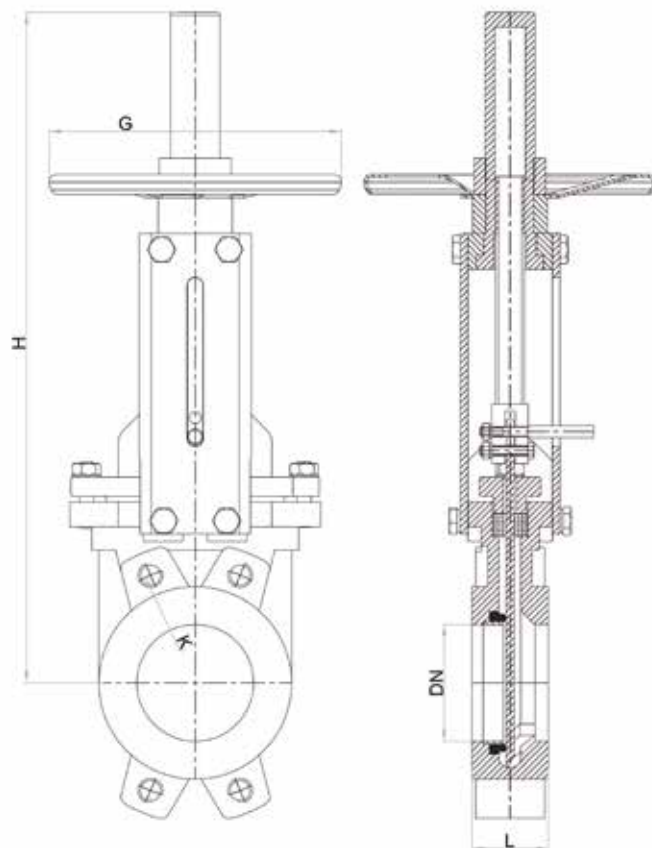
NO	ITEM	MATERIALS
1	STEM COVER	STEEL St 37
2	HANDWHEEL NUT	STEEL
3	HANDWHEEL	STEEL St 37
4	PLATE	STEEL
5	BOLT	STAINLESS STEEL
6	KNIFE WEDGE	STAINLESS STEEL 1.4301
7	NUT	STAINLESS STEEL
8	WASHER	STAINLESS STEEL
9	DRIVE SHAFT	STAINLESS STEEL 1.4021
10	BOLT	STAINLESS STEEL
11	PIN	STAINLESS STEEL 1.4021
12	NUT	STAINLESS STEEL
13	WASHER	STAINLESS STEEL
14	RETAINING COVER	EN GJS 500 DUCTILE IRON

NO	ITEM	MATERIALS
15	GASKET	POLYMER
16	SCREW	STEEL CK 45
17	BODY	EN GJS 500 DUCTILE IRON
18	GASKET BEARING	STAINLESS STEEL 1.4301
19	SEALING GASKET	EPDM
20	RETAINING PIPE	STEEL
21	BEARING NUT	STEEL
22	BEARING	STEEL
23	FLANGE	STEEL
24	WEDGE	STEEL
25	SHAFT NUT	CuZn40Pb2 BRASS
26	DISPLAY PLATE	STEEL
27	BOLTS	STAINLESS STEEL

KNIFE GATE VALVE

FAF 6500

Technical Details & Drawing, Dimensions

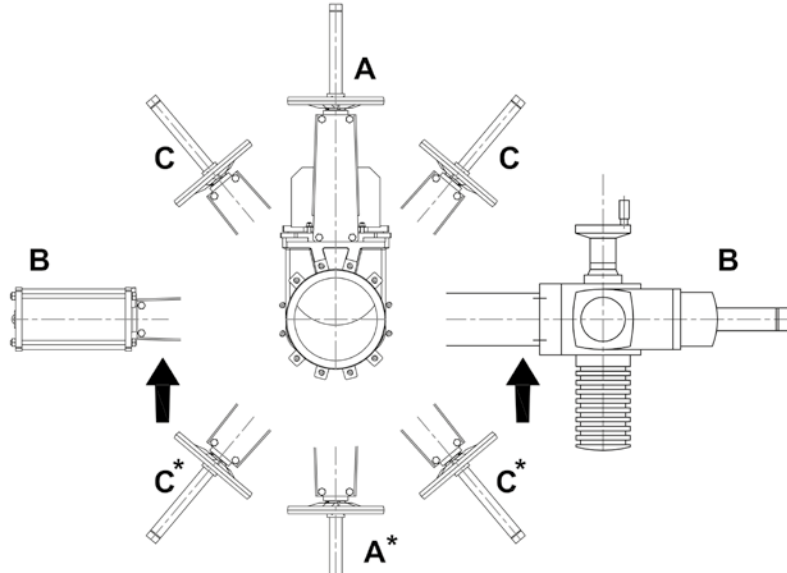


DN (mm)	K	L	H	G	WEIGHT (kg)
50	125	43	380	180	7,1
65	145	43	430	180	8,2
80	160	50	480	200	10,7
100	180	50	510	200	12,8
125	210	50	580	220	14,8
150	240	60	670	250	21,3
200	295	60	815	300	29,4
250	350	70	1000	320	46,5
300	400	70	1150	350	70
350	460	96	1315	440	96,5
400	515	100	1500	500	128
450	565	106	1650	600	230
500	620	110	1900	800	270
600	725	110	2300	1000	454

KNIFE GATE VALVE

FAF 6500

Knife Gate Valve Installation Methods



Dismounting

- The assembly position on the pipeline shall be in accordance with shape A, B or C. The handwheel or the actuator must be positioned vertically.
- Assembly in accordance with A* - B* and C* shapes are advised not to be used. If the site conditions requires positioning as A* - B* and C*, please ask for technical assistance.
- The valve body can be produced with cast iron, ductile iron cast steel or stainless steel.
- The knife wedge material can also be manufactured from different grades of stainless steel.
- Please contact us for different size and pressure ranges.

Associated Products for Knife Gate Valve Range



2290
BALL CHECK VALVE



2295
BALL CHECK VALVE THREADED



3770
ELECTRIC ACTUATOR



3780
ELECTRIC ACTUATOR



3700
GEARBOX



7250
EXTENSION SPINDLE
SURFACE BOX

RESILIENT SEATED GATE VALVE

FAF6600



Features

- Threaded gate valve with full bore.
- Stainless steel spindle with rolled thread and bearing.
- Total surface rubbered wedge with replaceable spindle nut.
- The body and bonnet are manufactured from ductile iron castings. It is resistant to high tensile stress occurring in pipelines.
- Low operating torque due to plastic sliding guides on the wedge.
- Maintenance-free and corrosion-resistant stem sealing.
- 100% tight sealing is achieved through EPDM covered wedge fully contacting the fusion bonded epoxy coated flow surface.
- Wedge and body guide rails ensure stable operation.
- Stainless steel stem with rolled threads for high strength & low operation torque.
- Full bore characteristics without disruption of flow results in low pressure drops across the valve.

Temperature

- +130 °C (EPDM)

PRODUCTION STANDARTS

DN25 → DN50
PN 16

Design	EN 1171 / EN 1074
Connection	EN ISO 228-1 Threaded
Face to Face	EN 558
Marking	EN 19
Tests	EN 12266-1
Pressure Class	PN 16
Corrosion Protection	Fusion Bonded Epoxy

Product Description

FAF6600 Threaded Service Valve with internal thread for water applications. Bolted cover connection; made of premium materials and with special coating designed as both clockwise and anti-clockwise directions.

Versions

- Standard version without handwheel
- With handwheel
- With gearbox
- With top flange
- Prepared for electrical actuator
- With electrical actuator

Accessories

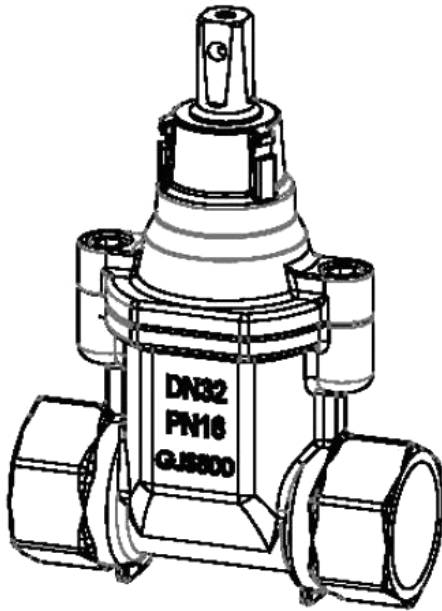
- T-key, FAF7250T
- Telescopic extension spindle ST37 steel, FAF7250
- Rigid extension spindle
- Surface box cast iron, FAF7250K
- Handwheels

Scope of Application

- Hot & cold water
- Water Treatment Plants
- Pumping stations
- Tanks
- Seawater applications
- Power plants (cooling water pipelines)
- Industry

RESILIENT SEATED GATE VALVE

FAF6600



MATERIAL SELECTION

Body	EN-GJS-500 DUCTILE IRON / GGG50
Bonnet	EN-GJS-500 DUCTILE IRON / GGG50
Stem	1.4021 - AISI 420 Stainless Steel 1.4301 - AISI 304 Stainless Steel (Optional) 1.4401 - AISI 316 Stainless Steel (Optional)
Sealing	EPDM APPROVED FOR DRINKING WATER
Coating	ELECTROSTATIC POWDER EPOXY APPROVED FOR DRINKING WATER

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

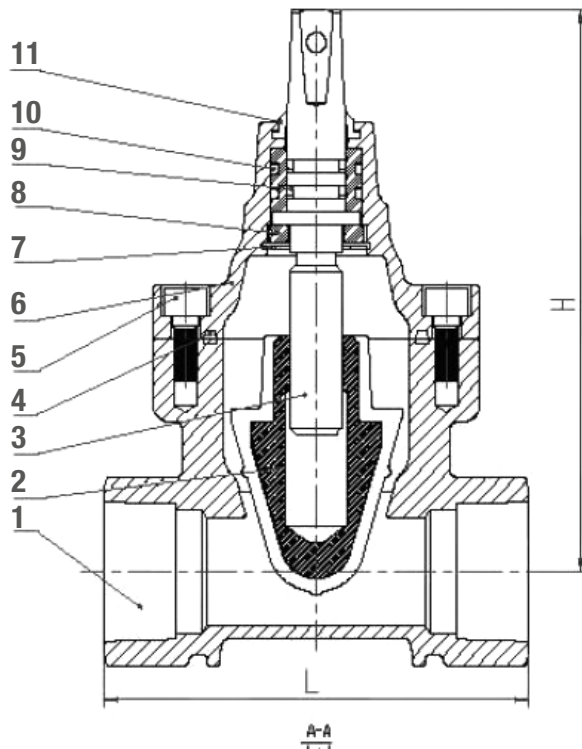
Note

- For proper use and safety precautions please follow the installation and operating instructions.

RESILIENT SEATED GATE VALVE

FAF6600

Material List



NO	ITEM	MATERIALS
1	BODY	DUCTILE IRON
2	DISC	EPDM
3	STEM	STAINLESS STEEL
4	GASKET	EPDM
5	BOLT	STAINLESS STEEL
6	BONNET	DUCTILE IRON
7	SPRING	CARBON STEEL
8	BUSHING	NYLON101
9	O-RING	EPDM
10	O-RING	EPDM
11	DUST GUIDE	EPDM

Technical Details & Drawing, Dimensions

SIZE	DN20	DN25	DN32	DN40	DN50
L	115	115	130	150	178
H	158	158	168	180	207

HYDRANT

FAF7100



Features

- It has two-pipe outlet.
- It is designed and manufactured according EN 14384 standards.
- It can be engaged easily and quickly. It is opened and closed due to hydrant switch by rotating the control shaft, which is at the head of hydrant.
- It can be manufactured at different lengths.
- Remaining water which is in the hydrant after usage can be released by check valve.
- The hydrant is protected in case of freezing.
- Light-weight, inexpensive hydrant tools available.
- Traffic flange designed for easy repair .
- All body and cover plate components are coated with fusion bonded powder epoxy
- Secured by the stainless steel safety stem coupling, and hydrant prevent traffic damage by pulling out if hit by a vehicle preventing damage to the main valve and stem.
- Easily removable main valve from either the bonnet or grounded-line flange.
- Hydrants are designed for high performance and easy to install,-maintain and repair.

Temperature

- +130 °C

PRODUCTS MODEL CODES

FAF7100	HYDRANT
FAF7150	HYDRANT UNDERGROUND
FAF7160	HYDRANT RUSSIAN TYPE

PRODUCTION STANDARTS

DN80 → DN100
PN 16

Design	EN 14384
Connection	EN 1092-2 / ISO 7005-2 - Flanged
Marking	EN 19
Tests	EN 14384
Corrosion Protection	Electrostatic Powder Epoxy

Product Description

FAF7100 Hydrant is provided water to fire brigade crew at possible fire moment to treat rapidly.

Versions

- Standard version with handlever
- Custom production for specific orders

Accessories

- Surface Box, FAF7100K
- Hydrant N-Part, FAF7100N
- Hydrant Key, FAF7100KEY

Scope of Application

- Fire protection

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

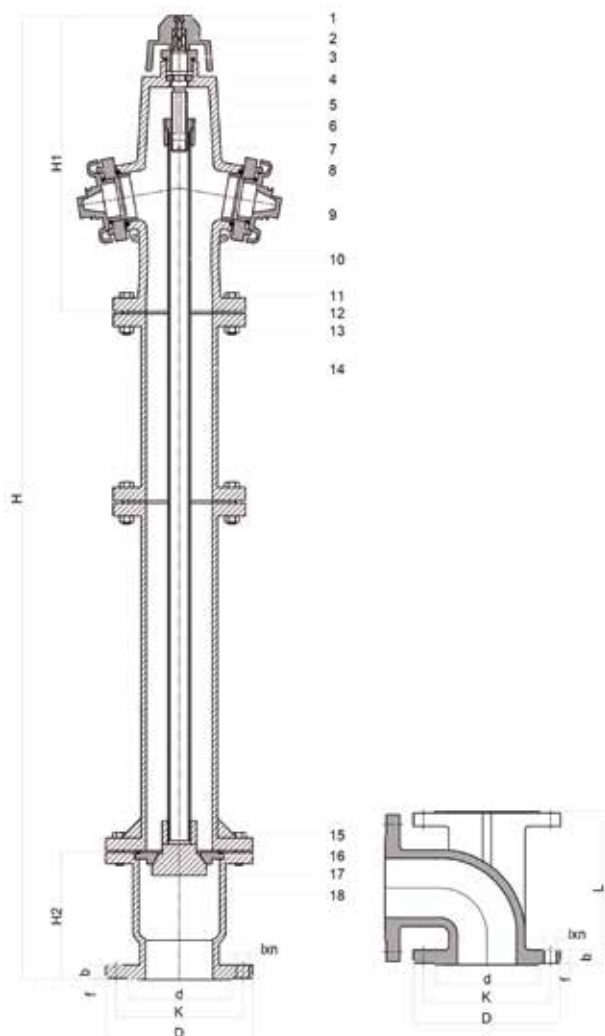
100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

- For proper use and safety precautions please follow the installation and operating instructions.

HYDRANT

FAF7100



NO	ITEM	MATERIALS
1	BOLT	DIN 912
2	COVER	EN GJS 40
3	MOVEMENT NUT	EN GJL 250 GG25
4	HALF MOON WASHER	St 37 STEEL
5	GASKET	1.4021 - AISI 420 STAINLESS STEEL
6	PRESSURE	EN GJL 250 GG25
7	TOP BODY	EN GJL 250 GG25
8	CONNECTION NUT	MS 58 BRASS / ALUMINIUM
9	CONNECTION COVER	MS 58 BRASS / ALUMINIUM
10	DRIVE PIPE	St 37 STEEL
11	BOLT	DIN 933
12	GASKET	EPDM
13	NUT	DIN 934
14	PIPE	EN GJL 250 GG25
15	BOLT	DIN 933
16	SEAT	EN GJL 250 GG25
17	CLAP	EN GJL 250 GG25
18	BODY	EN GJL 250 GG25

DN (mm)	D	K	d	Øl x n	f	b	L	H1	H2	H ±3 cm
80	200	160	132	19x8	3	22	300	345	195	1450 1750 2150
100	220	180	156	19x8	3	24	300	345	195	1450 1750 2150

HYDRANT - UNDERGROUND

FAF7150



Features

- The body of hydrant is underground and the cover is overground. It is vertical to ground and has one outlet.
- It is designed and manufactured according to TS EN 14339 standards.
- It can be engaged easily and quickly. It is opened and closed due to hydrant switch by rotating the control shaft, which is at the head of hydrant.
- Remaining water, which is in the hydrant after usage, can be released by check valve.
- The hydrant is protected in case of freezing.
- Can be manufactured at different lengths.
- Remaining water which is in the hydrant after usage can be released by check valve.
- Light-weight, inexpensive hydrant tools available.
- All body and cover plate components are coated with fusion bonded powder epoxy
- Secured by the stainless steel safety stem coupling, and hydrant prevent traffic damage by pulling out if hit by a vehicle preventing damage to the main valve and stem.
- Easily removable main valve from either the bonnet or grounded-line flange.
- Hydrants are designed for high performance and easy to install, maintain and repair.

Temperature

- +130 °C

PRODUCTS MODEL CODES

FAF7100	HYDRANT
FAF7150	HYDRANT UNDERGROUND
FAF7160	HYDRANT RUSSIAN TYPE

PRODUCTION STANDARTS

DN80 → DN100
PN 16

Design	EN 14339
Connection	EN 1092-2 / ISO 7005-2 - Flanged
Marking	EN 19
Tests	EN 14339
Corrosion Protection	Electrostatic Powder Epoxy

Product Description

FAF7150 Underground hydrant is provided water to fire brigade crew at possible fire moment to treat rapidly.

Versions

- Standard version with handlever
- Custom production for specific orders

Accessories

- Surface Box, FAF7100K
- Hydrant N-Part, FAF7100N
- Hydrant Key, FAF7100KEY

Scope of Application

- Fire protection

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

- For proper use and safety precautions please follow the installation and operating instructions.

HYDRANT - UNDERGROUND

FAF7150

Technical Details & Drawing, Dimensions



Hydrant



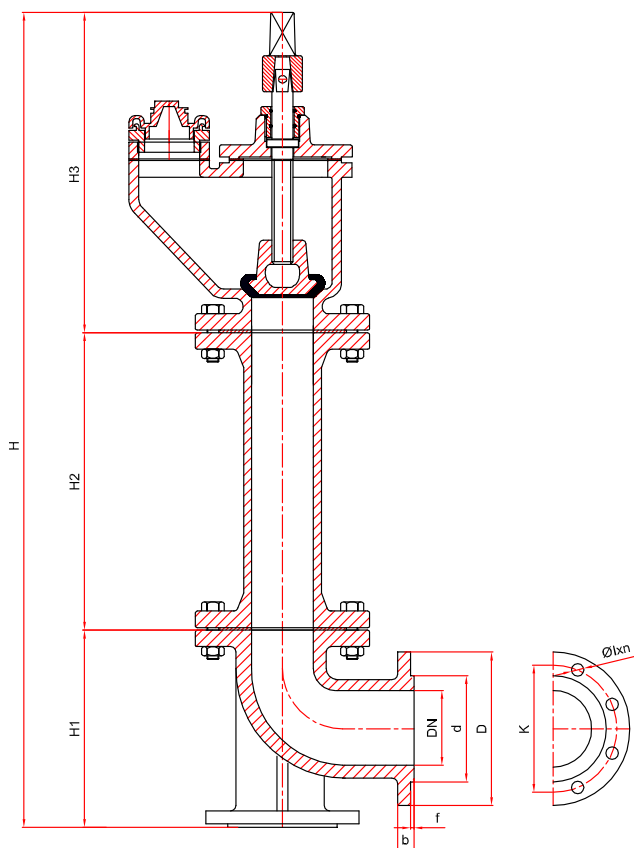
Hydrant Surface Box



N Part



Hydrant key



ITEM	MATERIALS
STEM	STAINLESS STEEL 1.4021
PLUG	ALUMINIUM - BRASS / EN 1982:1999
BOLT	DIN 933
SEALING	EPDM
NUT	DIN 934
PIPE	EN GJL 250 (CAST IRON)
BODY	EN GJL 250 (CAST IRON)
N PART	EN GJL 250 (CAST IRON) / ISO 185:2005

DN (mm)	D	K	d	Øl x n	f	b	H1	H2	H3	H ±3 cm
80	200	160	132	19x8	3	22	260	430	370	1060
100	220	180	156	19x8	3	24	260	430	370	1060

HYDRANT - RUSSIAN TYPE

FAF7160



Features

- It is designed and manufactured according EN 14384 standards.
- It can be engaged easily and quickly. It is opened and closed due to hydrant switch by rotating the control shaft, which is at the head of hydrant.
- The hydrant is protected in case of freezing.
- Traffic flange designed for easy repair .
- Can be manufactured at different lengths.
- Remaining water which is in the hydrant after usage can be released by check valve.
- Light-weight, inexpensive hydrant tools available.
- All body and cover plate components are coated with fusion bonded powder epoxy
- Secured by the stainless steel safety stem coupling, and hydrant prevent traffic damage by pulling out if hit by a vehicle preventing damage to the main valve and stem.
- Easily removable main valve from either the bonnet or grounded-line flange.
- Hydrants are designed for high performance and easy to install-maintain and repair.

Temperature

- +130 °C

PRODUCTS MODEL CODES

FAF7160	HYDRANT RUSSIAN TYPE
FAF7150	HYDRANT UNDERGROUND
FAF7100	HYDRANT

PRODUCTION STANDARTS

DN80 → DN100
PN 16

Design	EN 14339
Connection	EN 1092-2 / ISO 7005-2 Flanged
Marking	EN 19
Tests	EN 14339
Corrosion Protection	Industrial Epoxy

Product Description

FAF7160 Hydrant is provided water to fire brigade crew at possible fire moment to treat rapidly.

Versions

- Standard version with handlever
- Custom production for specific orders

Accessories

- Surface Box, FAF7100K
- Hydrant N-Part, FAF7100N
- Hydrant Key, FAF7100KEY

Scope of Application

- Fire protection

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6

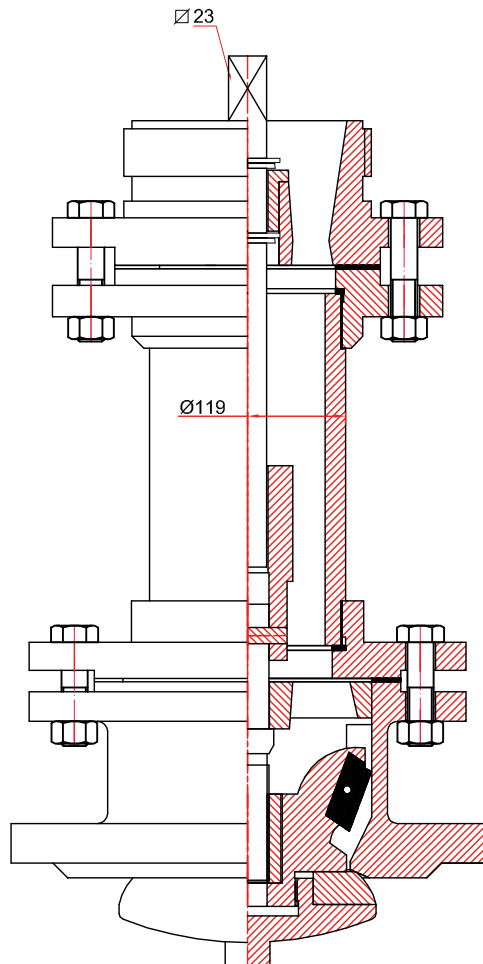
100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

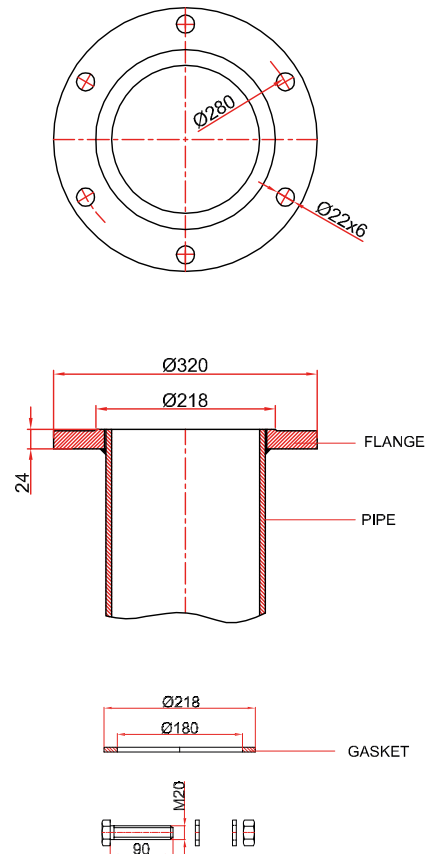
- For proper use and safety precautions please follow the installation and operating instructions.

HYDRANT - RUSSIAN TYPE FAF7160

Technical Details & Drawing, Dimensions



CONNECTION EQUIPMENT



NO	ITEM	MATERIALS
1	BODY	EN-GJL-250 / CAST IRON
2	STEM	1.4021 - AISI 420 STAINLESS STEEL
3	SEALING	EPDM

FOOT VALVE

FAF7200



Features

- The structure is made from the combination of filter and check valve
- Through its filter, the clean fluid transfer to the pump is maintained
- The spring check valve inside the body prevents the backflow and discharge of the pipeline
- For usage at pipeline edges inside the reservoir. Suitable to use on clean water lines. Zero stem leakage eliminates media loss and satisfies environmental regulations.
- Effective for energy savings. Energy loss due to leakage is controlled, helping to prevent global warming and protecting the environment.

Temperature

- +130 °C

PRODUCTION STANDARTS

DN100 → DN600
PN 10-16

Connection EN 1092-2 / ISO 7005-2

Marking EN 19

Tests EN 12266-1

Corrosion Protection Industrial Epoxy

Product Description

FAF7200 Foot Valve is an installation instrument used in pump suction lines in order to prevent discharge of the fluid to the reservoir when system is in static position and prevent waterless operation of the pump when started.

Versions

- Standard version with handwheel
- Standard version with gearbox
- Prepared for electrical actuator
- With electric actuator
- Custom production for specific orders

Accessories

- Extension spindle, FAF7250
- T-Key, FAF7250T
- Surface box, FAF7250K

Scope of Application

- Tanks
- Reservoirs
- Suction lines

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

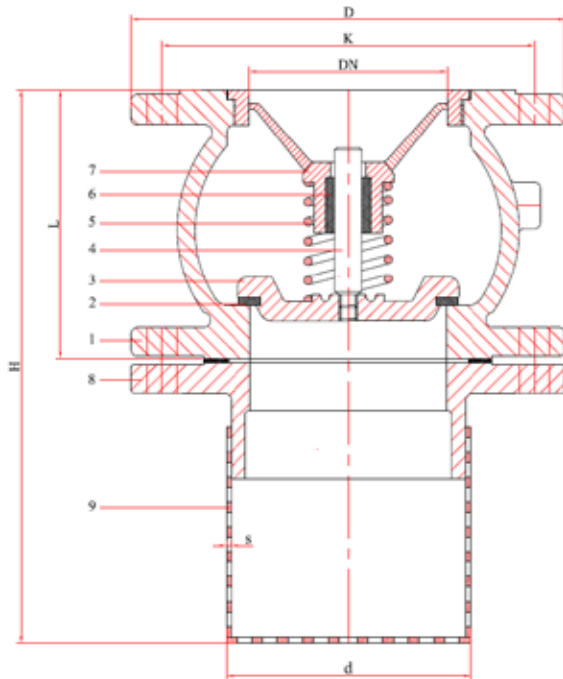
Note

- For proper use and safety precautions please follow the installation and operating instructions.

FOOT VALVE

FAF7200

Technical Details & Drawing, Dimensions



NO	ITEM	MATERIALS
1	Body	EN-GJS-400 Ductile Iron
2	Seat	1.4301 - AISI 420 Stainless Steel
3	Disc	EN-GJS-400 Ductile Iron
4	Stem	1.4301 - AISI 420 Stainless Steel
5	Spring	1.4301 - AISI 420 Stainless Steel
6	Ring	PTFE
7	Guide	EN-GJS-400 Ductile Iron
8	Flange	EN-GJS-400 Ductile Iron
9	Basket	1.4301 - AISI 420 Stainless Steel

Nominal Pressure	PN	10/16													
Nominal Diameter	DN	40	50	65	80	100	125	150	200	250	300	350	400	500	600
Valve Dimension	L	85	100	120	140	170	200	230	288	354	395	472	560	670	710
	H	185	200	245	280	320	400	450	510	600	650	735	860	1020	1400
	d	71	81	101	111	140	161	190	235	295	354	410	454	554	654
	S	1,5							2					2,5	
Kv Values	Kv	47	99	159	222	396	619	890	1120	2010	2459	2843	4280	6914	9533
Flange Dimensions DIN EN 1092 PN 10	D	150	165	185	200	220	250	285	340	395	445	505	565	670	780
	K	110	125	145	160	180	210	240	295	350	400	460	515	620	725
Flange Dimensions DIN EN 1092 PN 16	D	150	165	185	200	220	250	285	340	405	460	520	580	715	840
	K	110	125	145	160	180	210	240	295	355	410	470	525	650	770
Weight	Kg	6,2	8,8	11	14	19,5	30,5	39,5	64,5	110	156	250	342	590	630

EXTENSION SPINDLE & SURFACE BOX SET

FAF7250



Features

- The extension spindle is made of ST37 steel, spindle protector is made of PE, surface box is made of cast iron. It can be manufactured as project requirement.
- FAF 7250 manufactured with St 37 steel and PE protection. Rigid and telescopic types are available.
- FAF 7250K manufactured with ductile iron. Can fit to any type of valve.
- Telescopic size range, the height can be set at any length in the size range 45-70 cm
- Extension spindle for gate valves for water, neutral liquids and gas.
- Rigid type is also available.

Product Description

FAF7250 Extension Spindle Set is used for control valves installed underground from above ground. Surface box kit is made of protected extension spindle, interconnect components and surface box.

Versions

- Standard version with handle lever
- Custom production for specific orders

Scope of Application

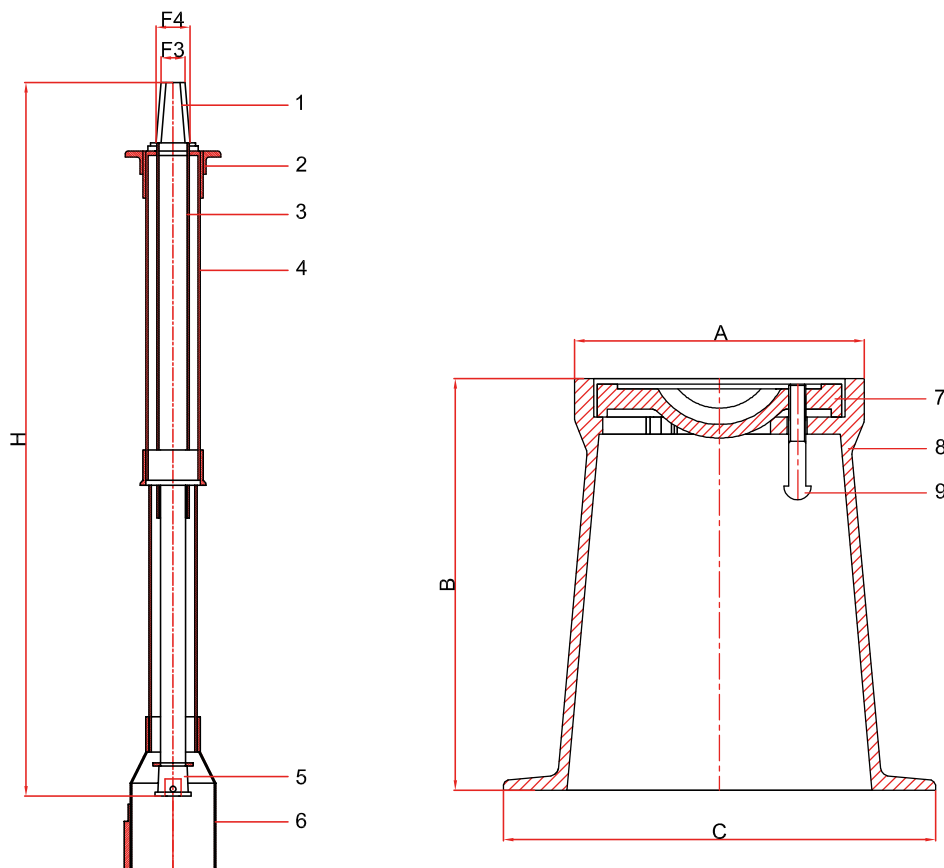
- Fire protection
- Steam
- Hot & cold water
- Potable Water
- Superheated Water
- Gas Networks
- Chemicals
- Pressurized Air

PRODUCTS MODEL CODES

FAF7251	SURFACE BOX
FAF7250	TELESCOPIC TYPE EXTENSION SPINDLE
FAF7250R	RIGID TYPE EXTENSION SPINDLE
FAF7250T	T-KEY

EXTENSION SPINDLE & SURFACE BOX SET

FAF7250



NO	ITEM	MATERIALS
1	KEY ADAPTOR	1.4021 - AISI 420 STAINLESS STEEL
2	LOCKNUT	DIN 933
3	STEM	EPDM
4	UPSIDE COVER	DIN 934
5	STEM ADAPTOR	EN-GJS-400 / DUCTILE IRON
6	DAUMSIDE ADAPTOR	PE 100
7	COVER	EN-GJS-400 / DUCTILE IRON
8	BODY	EN-GJS-400 / DUCTILE IRON
9	PIN	ST-37 STEEL

VALVE STEM (H)		
DIAMETER (DN)		LENGTH
40 - 50 mm		450 - 700 mm
65 - 80 mm		
100 - 125 - 150 mm		650 - 1100 mm
200 mm		
250 - 300 mm		1050 - 1750 mm

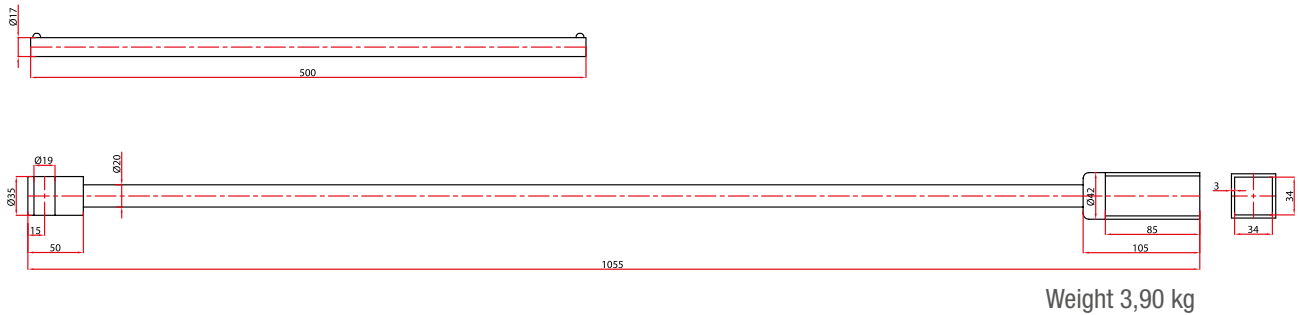
KEY ADAPTER	
F3	23 ±2 mm
F4	32 ±2 mm

	BIG	SMALL
A	182	170
B	242	178
C	259	206

EXTENSION SPINDLE & SURFACE BOX SET

FAF7250

FAF7250R Rigid Type Extension Spindle Technical Drawing



SINGLE ORIFICE ARV

FAF 7310



Features

- Ductile iron body, flanged connection according to EN 1092-2. Float part made of polyethylene which can be replaced easily.
- If the air is not discharged in water transmission and water network when on duty, air is collected in certain areas and may cause the danger of stopping the waterflow. This danger is increased with the congestion, and causing the pipeline to explode and major damages.
- Single Orifice ARV is installed on the pipe with a flange, releases the air received from its flange connection through the orifice located above the float part. When the air release is completed, the float travels upside with the water force and closes the orifice outlet, thus preventing the leakage of water.
- The biggest problem of Single Orifice ARV is the ARV blockage. For this reason, ARV's on the line must be checked at certain intervals.
- While the pipeline is taken into service, it enables the air accumulation and discharges out of the system.
- With the discharge of air inside the system, the fluid will reach the release level; so the float ball valve inside the body elevates on the water and places on the sealing seat and turns to closed position.
- When it is needed to discharge the filled pipelines, it is required to fill air in place of the fluid leaves the system.
- Body and cover of ductile iron with blue epoxy coating
- Release valves can be manufactured with flanged or screwed ends.
- Working pressure range: 0.2 – 16 bar

Temperature

- +130 °C

PRODUCTION STANDARDS

DN50 → DN200
PN 10-16

Design	EN 1074-4
Connection	EN 1092-2 / ISO 7005-2
Marking	EN 19
Tests	EN 12266
Corrosion Protection	Industrial Epoxy

Product Description

FAF7310 Single Orifice ARV; to be used for the purpose of releasing the existing air in the potable water transmission lines and water networks after installation or during emptying and refilling the pipeline due to maintenance works. This type has no air vacuuming function.

Accessories

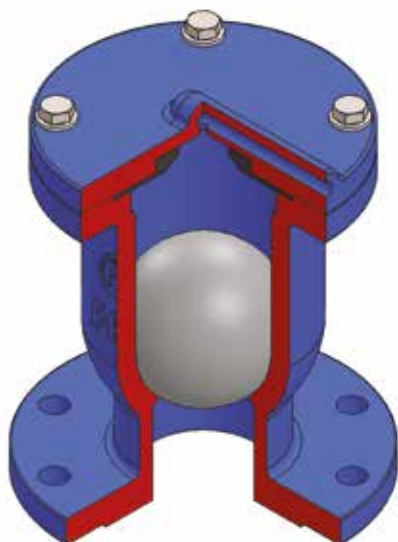
- Gate valve, FAF6000
- Butterfly valve, FAF3500-3600
- Flange adaptor, FAF3960

Scope of Application

- Pump suction lines
- Water lines
- Water supply network
- Line valves
- Venturimeters
- Plunger & turbine pumps

SINGLE ORIFICE ARV

FAF 7310



PRODUCTS MODEL CODES

FAF7310	SINGLE ORIFICE ARV
FAF7320	DOUBLE ORIFICE ARV
FAF7330	NON-SLAM DYNAMIC ARV
FAF7340	DOUBLE ORIFICE NON-SLAM (Kinetic) ARV
FAF7350	COMBINATION (Underground -Street) ARV

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

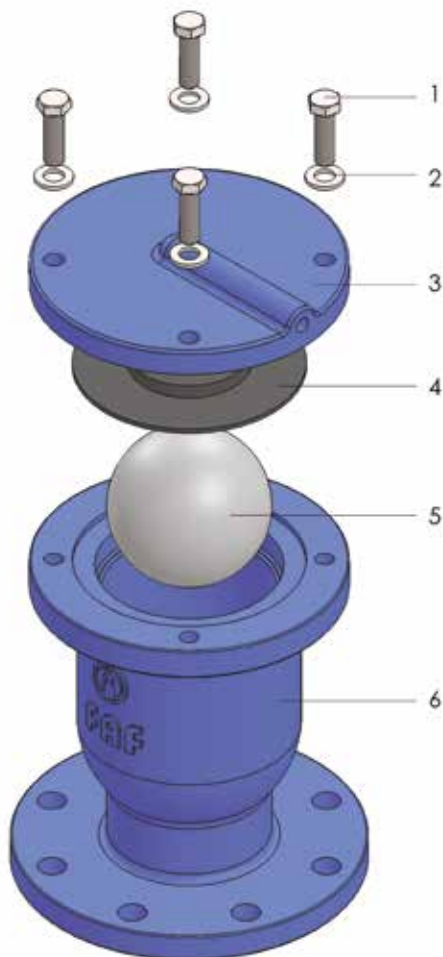
Note

- For proper use and safety precautions please follow the installation and operating instructions.

SINGLE ORIFICE ARV

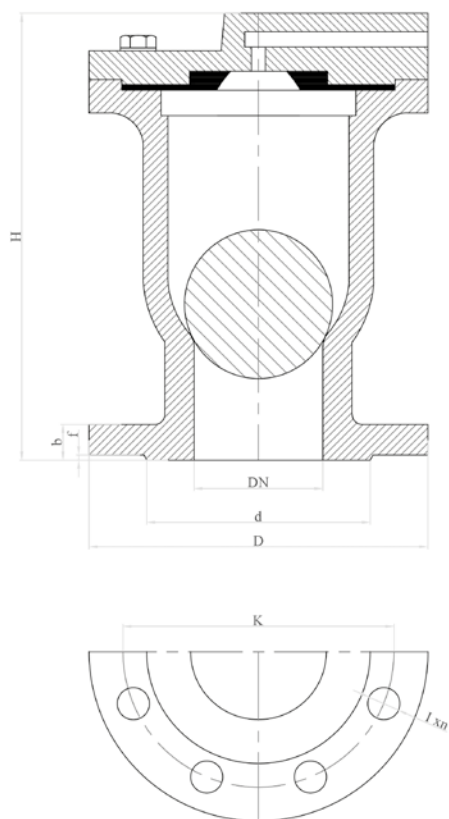
FAF 7310

Material List



NO	ITEM	MATERIALS
1	BOLT	DIN 93
2	WASHER	DIN 125
3	BONNET	EN GJS 400 DUCTILE IRON
4	BONNET SEALING	EPDM
5	FLOAT	POLYETHYLENE
6	BODY	EN GJS 400 DUCTILE IRON

Technical Details & Drawing, Dimensions



DIMENSIONS									
DN (mm)	PN	D	K	d	I x n	f	b	H	Weight (kg)
50	PN10	165	125	99	Ø19x4	3	19	227	8
65		185	145	118	Ø19x4	3	19	229	9
80		200	160	132	Ø19x8	3	19	236	13
100	PN16	220	180	156	Ø19x8	3	19	236	15
125		250	210	184	Ø19x8	3	19	372	26
150		285	240	211	Ø23x8	3	19	372	27
200	PN 10	340	295	266	Ø23x8	4	20	372	30
200	PN 16	340	295	266	Ø23x12	4	20	372	30

SINGLE ORIFICE ARV

FAF 7310

General Information About Arv's

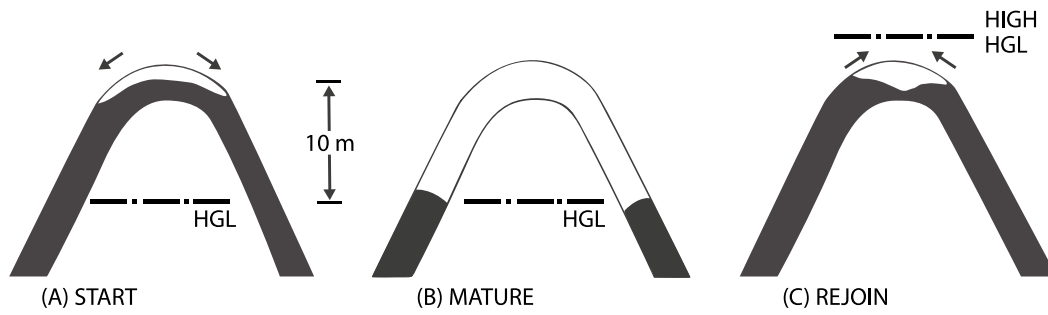
Air vacuum and release is vital for the pipeline operation and safety. Many problems faced with the pipelines are actually related with the air left inside the pipe that cannot be released.

Where does the air in the pipeline come from?

- Pipeline is already filled with air before filling with water.
- There exists 2% dissolved air in the water, which can vaporise by temperature change or pressure drop.
- Each pump absorbs a certain amount of air.
- Incorrect installations.

Effects of Air

- Air in the pipeline, narrows the filled water section and increases operating costs.
- Sometimes trapped air can stop the entire flow, depending on the nature of the pump
- At the peaks, the air that is trapped moves suddenly. This creates turbulence and vibration on the pipeline.
- Corrosion rate accelerates.
- Causes faulty flow meter readings.
- Affects the operation of control valves.
- At some cases, the jammed air arrives at such a moment that it causes the pipe to explode.



DOUBLE ORIFICE ARV

FAF 7320



Features

- Ductile Iron Body, flanged connection according to EN 1092-2. Float part made of polyethylene which can be replaced easily.
- while emptying the line, if the air intake amount less than the water discharge amount, pipe will face the danger of vacuuming. Regardless of the pipe type, vacuum force will pull the pipe perimeter to the center, hence contractions and bendings occur on the pipe.
- Gasket fixings become loose and causes leakage after filling. Welding and connection areas will be under same danger.
- If the air is not discharged in water transmission and water network when on duty, air is collected in certain areas and may cause the danger of stopping the waterflow. This danger is increased with the congestion, and causing the pipeline to explode and major damages.
- Double Orifice ARV is installed on the pipe with a flange, releases the air received from its flange connection through the orifices located above the float parts. When the air release is completed, the floats travel upside with the water force and closes the orifice outlet, thus preventing the leakage of water.
- The biggest problem of Double Orifice ARV' is the ARV blockage. For this reason, ARV's on the line must be checked at certain intervals.
- Body and cover of ductile iron with blue epoxy coating.
- Release valves can be manufactured with flanged or screwed ends.
- Depending on the capacity of the pipeline, single orifice or double orifice air release valve needs to be chosen.
- Working pressure range: 0.2 – 16 bar.

Temperature

- +130 °C

PRODUCTION STANDARTS

DN50 → DN200
PN 10-16

Design	EN 1074-4
End Connection	EN 1092-2 / ISO 7005-2
Marking	EN 19
Tests	EN 12266
Corrosion Protection	Industrial Epoxy

Product Description

FAF7320 Double Orifice ARV; to be used for the purpose of releasing the existing air in the potable water transmission lines and water networks after installation or during emptying and refilling the pipeline due to maintenance works. And, to be used for the purpose of vacuuming air into the pipe during emptying the pipeline due to maintenance or failure circumstances.

Accessories

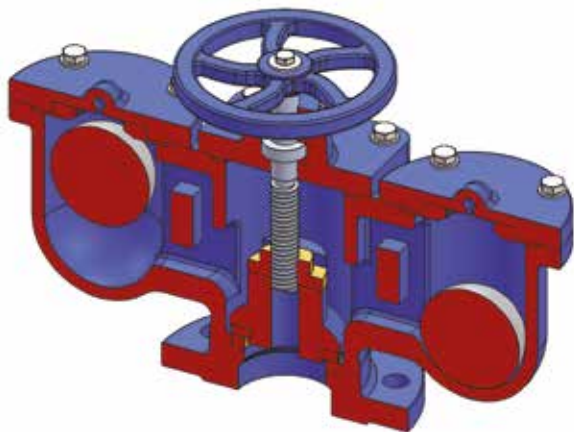
- Gate valve, FAF6000
- Butterfly valve, FAF3500-3600
- Flange adaptor, FAF3960

Scope of Application

- Pump suction lines
- Water lines
- Water supply network
- Line valves
- Venturimeters
- Plunger & turbine pumps

DOUBLE ORIFICE ARV

FAF 7320



PRODUCTS MODEL CODES

FAF7310	SINGLE ORIFICE ARV
FAF7320	DOUBLE ORIFICE ARV
FAF7330	NON-SLAM DYNAMIC ARV
FAF7340	DOUBLE ORIFICE NON-SLAM (Kinetic) ARV
FAF7350	COMBINATION (Underground -Street) ARV

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6

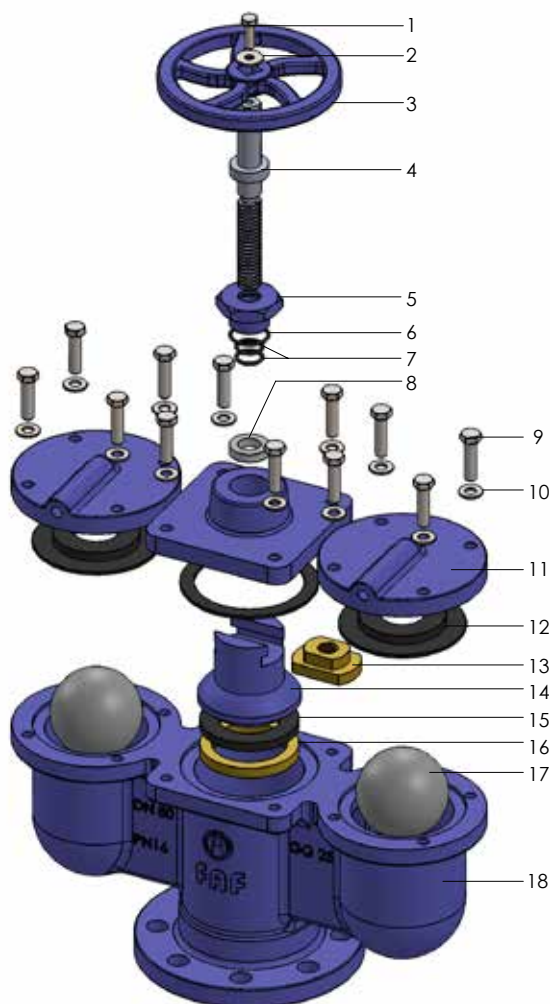
100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

- For proper use and safety precautions please follow the installation and operating instructions.

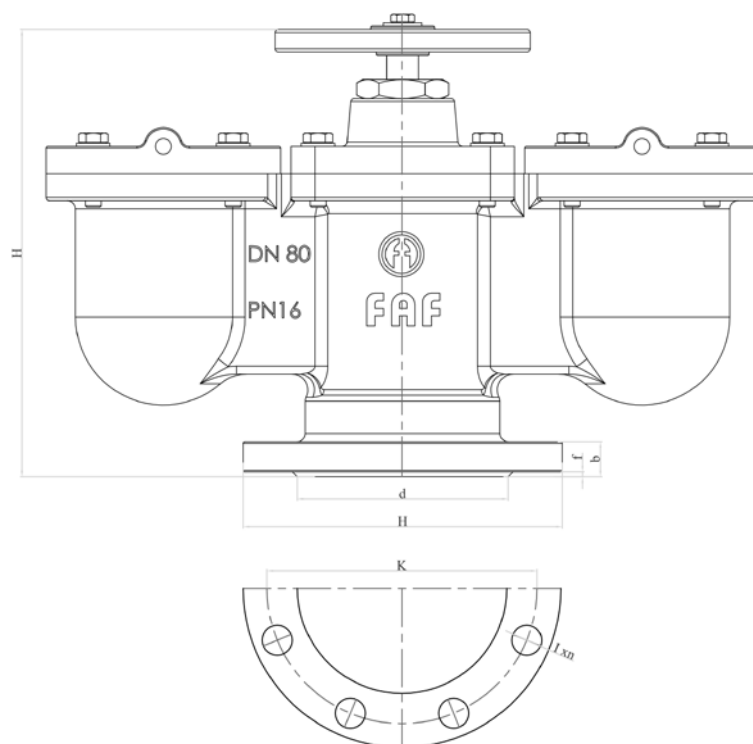
DOUBLE ORIFICE ARV FAF 7320

Material List



NO	ITEM	MATERIALS
1	BOLT	DIN 933
2	WASHER	STEEL
3	HAND WHEEL	EN GJL 250 CAST IRON
4	STEM	1.4021 STAINLESS STEEL
5	BONNET NUT	EN GJL 250 CAST IRON
6	O-RING	NBR - EPDM
7	O-RING	NBR - EPDM
8	WASHER	PTFE
9	BOLT	DIN 933
10	WASHER	DIN 125
11	BONNET	EN GJS 400 DUCTILE IRON / EN GJL 250 CAST IRON
12	BONNET SEALING	EPDM
13	SLIDE NUT	CuZn40Pb2 MS58 BRASS
14	DISC	EN GJS 400 DUCTILE IRON / EN GJL 250 CAST IRON
15	DISC SEALING	EPDM
16	SEAT	CuZn40Pb2 MS58 BRASS
17	FLOAT	POLYETHYLENE
18	BODY	EN GJS 400 DUCTILE IRON / EN GJL 250 CAST IRON

Technical Details & Drawing, Dimensions



DIMENSIONS								
DN (mm)	PN	D	K	d	I x n	f	b	H
50	PN10	165	125	99	19x4	3	20	275
65		185	145	118	19x4	3	20	275
80		200	160	132	19x8	3	20	280
100		220	180	156	19x8	3	24	280
125	PN16	250	210	184	19x8	3	26	280
150		285	240	211	23x8	3	26	400
200	PN10	340	295	266	Ø23x8	4	26	400
200	PN16	340	295	266	Ø23x12	4	30	400

DOUBLE ORIFICE ARV

FAF 7320

General Information About Arv's

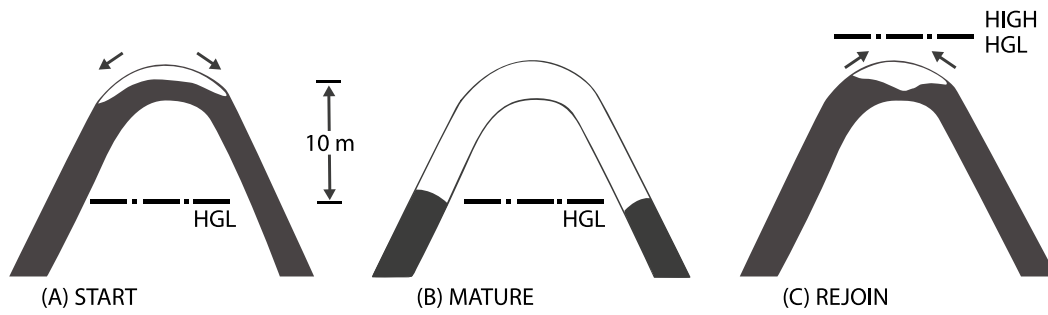
Air vacuum and release is vital for the pipeline operation and safety. Many problems faced with the pipelines are actually related with the air left inside the pipe that cannot be released.

Where does the air in the pipeline come from?

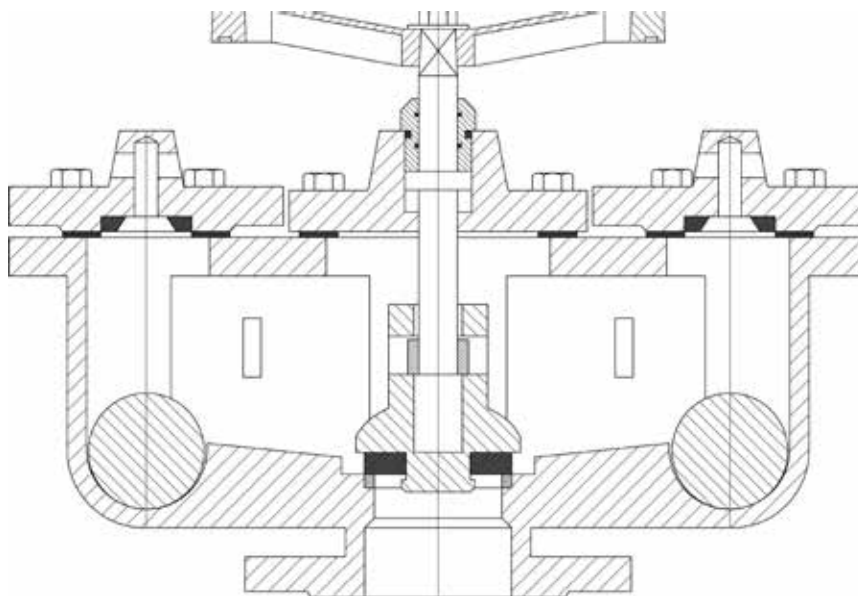
- Pipeline is already filled with air before filling with water.
- There exists 2% dissolved air in the water, which can vaporise by temperature change or pressure drop.
- Each pump absorbs a certain amount of air.
- Incorrect installations.

Effects of Air

- Air in the pipeline, narrows the filled water section and increases operating costs.
- Sometimes trapped air can stop the entire flow, depending on the nature of the pump
- At the peaks, the air that is trapped moves suddenly. This creates turbulence and vibration on the pipeline.
- Corrosion rate accelerates.
- Causes faulty flow meter readings.
- Affects the operation of control valves.
- At some cases, the jammed air arrives at such a moment that it causes the pipe to explode.



General Information about ARV's



Problems, Usage

- Leakage due to float deformation and rubber damage are the most common complaints in rubber coated sphere float designs.
- In some designs, the air release valve is deactivated due to float part is jammed to the large orifice during the closure.
- The biggest problems are the closure problems in the literature, called dynamic (premature) closure, before the entire pipeline air mass is released.
- During air release, it is not possible to hold the float at its place after a certain air flow, subject to aerodynamic laws, and is absorbed, closing the large orifice.

Non-slam Dynamic ARV

Non-slam dynamic ARV's are kind of ARV's that do not block and do not require maintenance and observation by continuing to release the air through the orifice of the float even when the anti-shock floater is closed, solving all the problems of double orifice ARV with its structure and functions. The middle float keeps the system fully safe by releasing the air bubbles occurring under pressure. They are installed inside the ARV chambers on the pipelines by placing isolation valves such as gate and wafer butterfly valves under the Dynamic ARV's and Double Orifice ARV's.

NON-SLAM DYNAMIC ARV

FAF 7330



Features

- Non-Slam Dynamic ARV to be used for the purpose of vacuuming air into the pipe during emptying the pipeline due to maintenance or failure circumstances. In addition, to release small air particules that may occur time to time during operation.
- Non-Slam Dynamic ARV is installed to the pipe with a flanged connection.
- One of the most important feature of Non-Slam Dynamic ARV is that air outlet diameter has the same size with inlet diameter.
- Non-Slam Dynamic ARV's are known as three function ARV's; air release during filling the pipeline, releasing air particules under pressure, air vacuum during emptying the pipeline.
- Eliminates the problem of early closure.
- Provides a big advantage during installation and operation with its single body design and low weight.
- High resistant float parts made of HDPE eliminates the negative effects of deformation and abrasion.
- Ductile Iron Body, flanged connection according to EN 1092-2. Float part made of polyethylene which can be replaced easily.
- Body and cover of ductile iron with blue epoxy coating.
- Release valves can be manufactured with flanged or screwed ends.
- Working pressure range: 0.2 – 16 bar.

Temperature

- +130 °C

PRODUCTION STANDARTS

DN50 → DN250
PN 10-16

Design	EN 1074-4
End Connection	EN 1092-2 / ISO 7005-2
Marking	EN 19
Tests	EN 12266
Corrosion Protection	Industrial Epoxy

Product Description

FAF7330 Non-Slam Dynamic ARV; to be used for the purpose of releasing the existing air in the potable water transmission lines and water networks after installation or during emptying and refilling the pipeline due to maintenance works.

Accessories

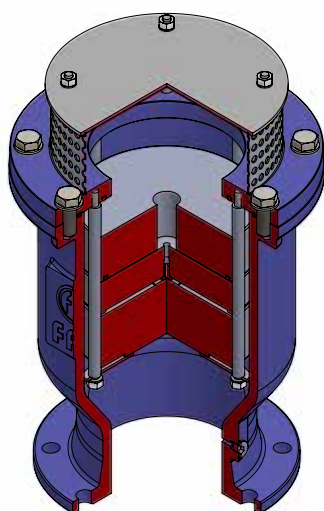
- Gate valve, FAF6000
- Butterfly valve, FAF3500-3600
- Flange adaptor, FAF3960

Scope of Application

- Pump suction lines
- Water lines
- Water supply network
- Line valves
- Venturimeters
- Plunger & turbine pumps

NON-SLAM DYNAMIC ARV

FAF 7330



PRODUCTS MODEL CODES

FAF7310	SINGLE ORIFICE ARV
FAF7320	DOUBLE ORIFICE ARV
FAF7330	NON-SLAM DYNAMIC ARV
FAF7340	DOUBLE ORIFICE NON-SLAM (Kinetic) ARV
FAF7350	COMBINATION (Underground -Street) ARV

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

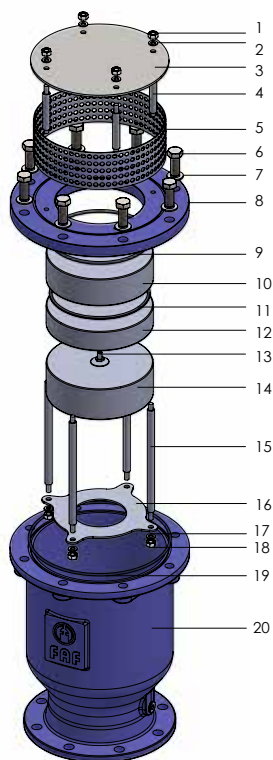
Note

- For proper use and safety precautions please follow the installation and operating instructions.

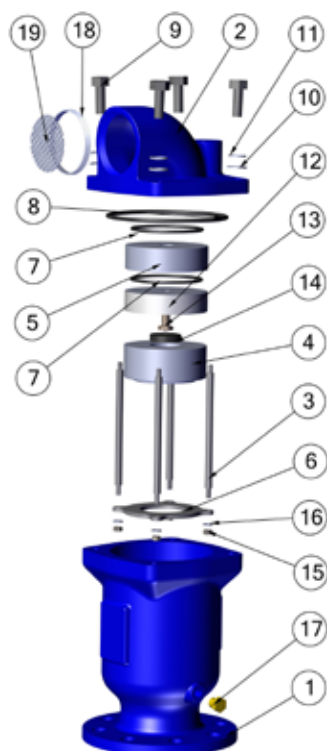
NON-SLAM DYNAMIC ARV

FAF 7330

Material List



NO	ITEM	MATERIALS
1	NUT	DIN 934
2	WASHER	DIN 125
3	UPPER COVER	STAINLESS STEEL
4	STUD	STAINLESS STEEL
5	FILTER	1.4301 STAINLESS STEEL
6	BOLT	DIN 933
7	WASHER	DIN 125
8	BONNET	STEEL
9	O-RING	NBR - EPDM
10	UPPER FLOAT	HDPE
11	O-RING	NBR - EPDM
12	MIDDLE FLOAT	HDPE
13	ORIFICE	1.4301 STAINLESS STEEL
14	LOWER FLOAT	HDPE
15	STUD	STAINLESS STEEL
16	FLANGE	1.4301 STAINLESS STEEL
17	WASHER	DIN 125
18	NUT	DIN 934
19	O-RING	NBR - EPDM
20	BODY	EN GJS 500 DUCTILE IRON

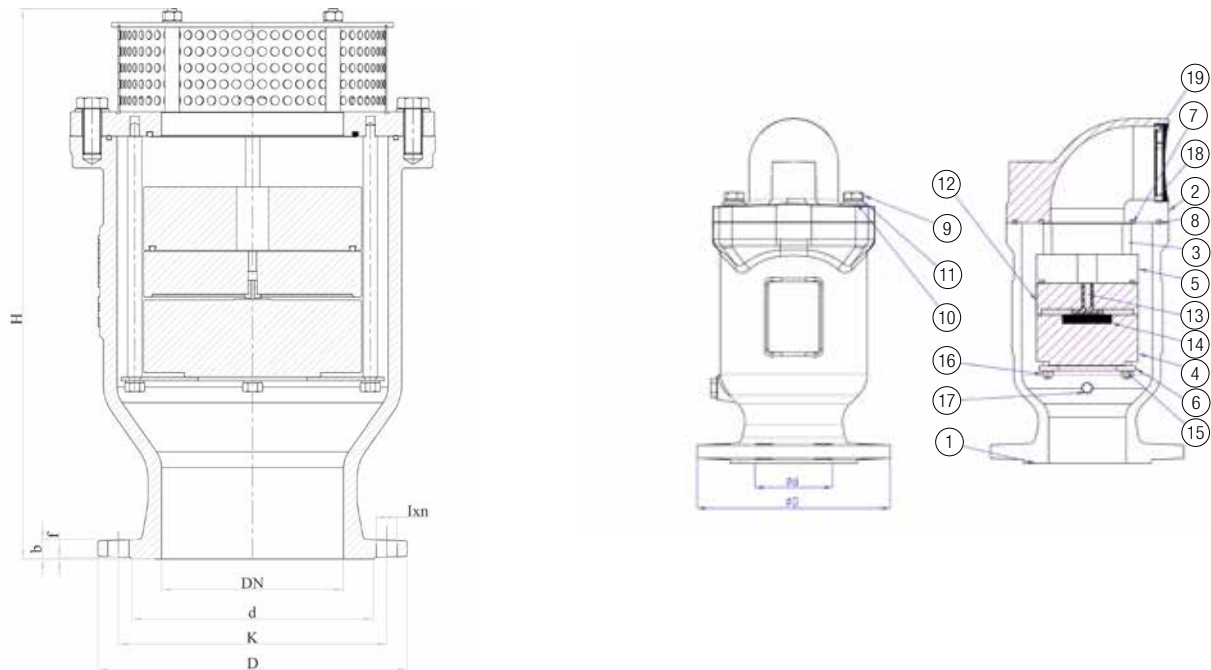


NO	ITEM	MATERIALS
1	BODY	EN GJS 500
2	BONNET	EN GJS 500
3	STUD	AISI420
4	LOWER FLOAT	HDPE
5	UPPER FLOAT	HDPE
6	FLANGE	AISI430
7	O-RING	NBR - EPDM
8	O-RING	NBR - EPDM
9	BOLT	A2
10	WASHER	AISI430
11	WASHER	AISI430
12	MIDDLE FLOAT	HDPE
13	ORIFICE	AISI420
14	SEALING	EPDM
15	BOLT	A2
16	WASHER	AISI304
17	NUT	BRASS
18	FILTER RING	AISI430
19	FILTER	AISI430

NON-SLAM DYNAMIC ARV

FAF 7330

Non-Slam Dynamic ARV Technical Details



DIMENSIONS								
DN (mm)	PN	D	K	d	l x n	f	b	H
50	PN10	165	125	99	Ø19x4	3	19	300
80		200	160	132	Ø19x8	3	19	330
100	PN16	220	180	156	Ø19x8	3	19	375
150		285	240	211	Ø23x8	3	19	530
200	PN 16	340	295	266	Ø23x8	4	20	590
200	PN 10	340	295	266	Ø28x12	4	20	590
250	PN 16	400	355	319	Ø28x12	4	22	750
250	PN 10	400	350	319	Ø23x12	4	22	750

	H	ØD	Ød
DN50	306	165	50
DN80	357	200	80

NON-SLAM DYNAMIC ARV

FAF 7330

General Information About Arv's

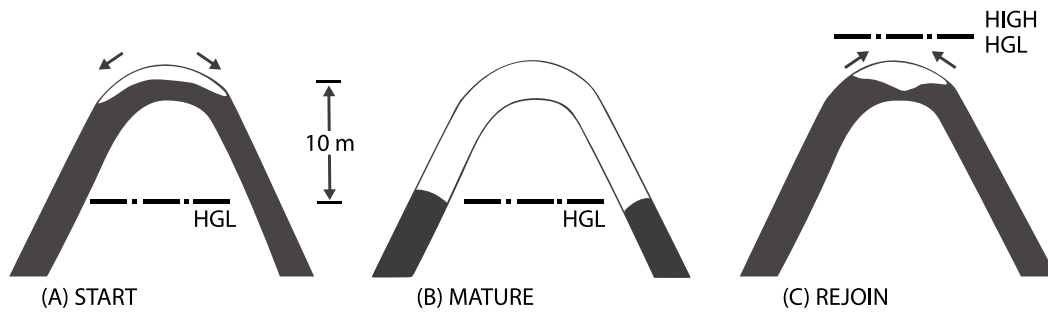
Air vacuum and release is vital for the pipeline operation and safety. Many problems faced with the pipelines are actually related with the air left inside the pipe that cannot be released.

Where does the air in the pipeline come from?

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- Each pump absorbs a certain amount of air.
- Incorrect installations.

Effects of Air

- Air in the pipeline, narrows the filled water section and increases operating costs.
- Sometimes trapped air can stop the entire flow, depending on the nature of the pump
- At the peaks, the air that is trapped moves suddenly. This creates turbulence and vibration on the pipeline.
- Corrosion rate accelerates.
- Causes faulty flow meter readings.
- Affects the operation of control valves.
- At some cases, the jammed air arrives at such a moment that it causes the pipe to explode.



NON-SLAM DYNAMIC ARV

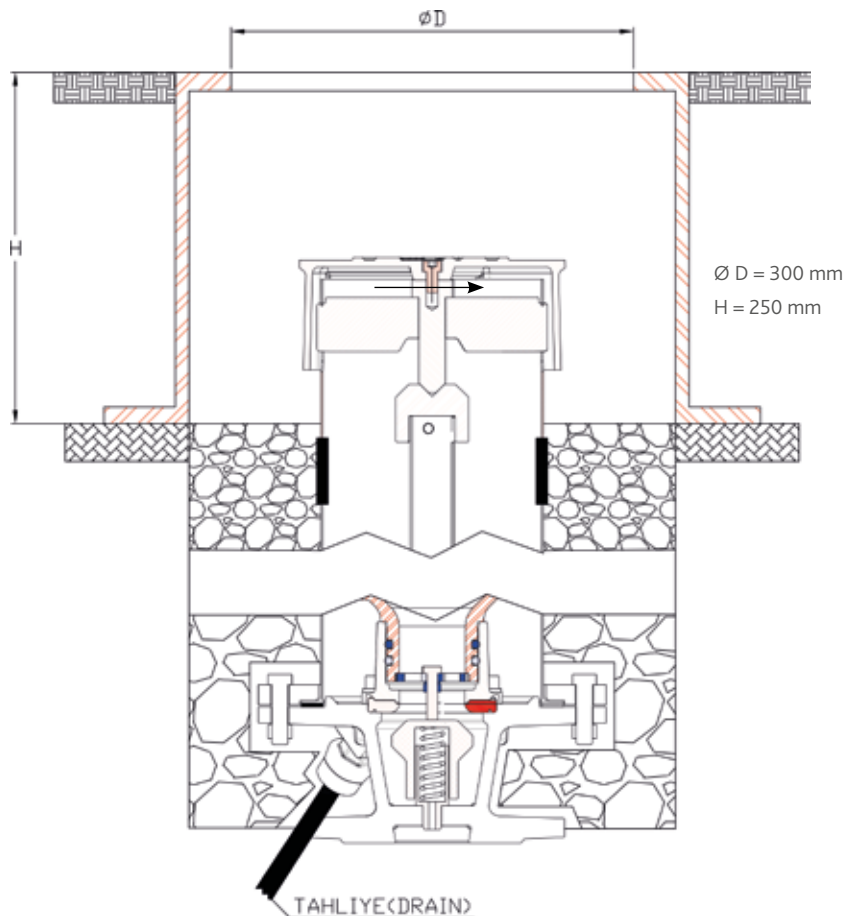
FAF 7330

Combination (Underground-Street) ARV Installation

- Combination ARV's are type air release valves used by buried underground, releasing the air inside the pipe and vacuuming the air to the pipe, at the water networks where pipe bursts occur, to prevent the deformation of pipes, to prevent the water leakages or losses where insufficient or water service shortage problems even the water criterias are appropriate.
- For installation, install the flanged spigot or flanged clamp to the main pipe firmly. If you are going to install flanged spigot, be sure it is welded properly to prevent any deficiency which would cause leakage or vacuum.
- With the flanged clamp installation, the important points are to be sure sealing are not misaligned and clamp is well tightened.
- After finishing the installation of spool and clamp, place your gasket on the flange and place the ARV on the flange, place the bolts&nuts and tighten them firmly. Then, place an extension pipe with a length of 1-1,5mt. to the discharge entrance located under the ARV, spread some pebblestone to the level of the open-end side of the pipe and fill carefully upto the level above the ARV's plastic cover. Surface box height should be 250mm. After arranging the distance from the surface, place the surface box with a zero level to the ground, fill the ground part with concrete to fix. You can continue completing your filling, after finishing this process.

Type of Installation

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NON-SLAM DYNAMIC ARV

FAF 7330

General Information About Arv's

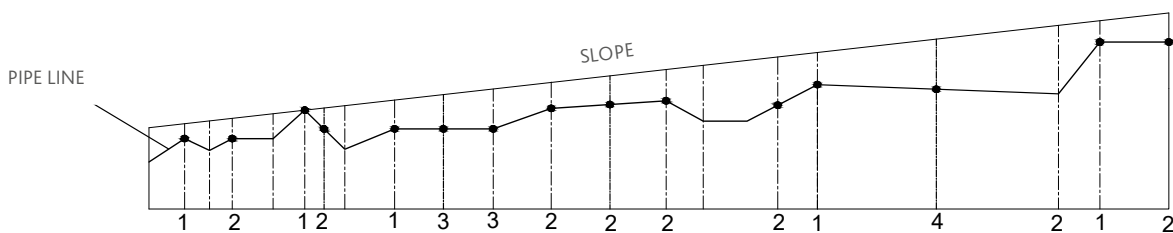
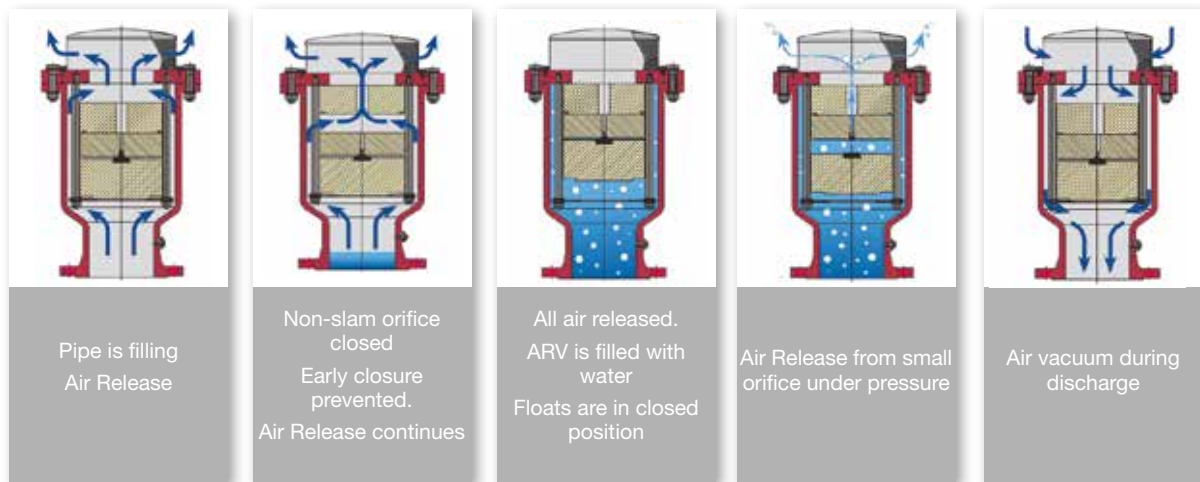
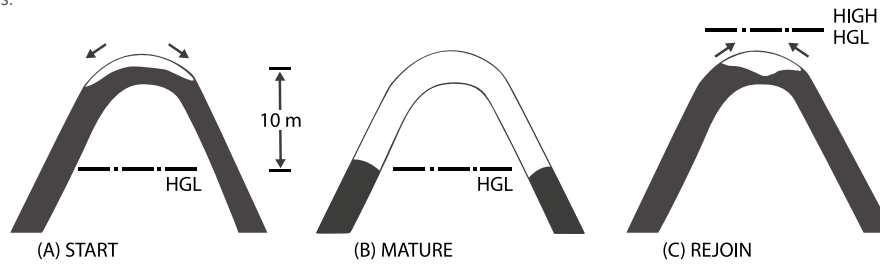
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Effects of Air

- Air in the pipeline, narrows the filled water section and increases operating costs.
- Sometimes trapped air can stop the entire flow, depending on the nature of the pump



ARV Placement Position Suggestions ARV Application

1. Full peak points
2. Incase of increase in downward slope or decrease in upward slope.
3. At every 600 to 1000 mt. at long linear pipelines
4. At long sloping lines, maximum at every 600 mt.
5. At every 400-500 mt in water networks.

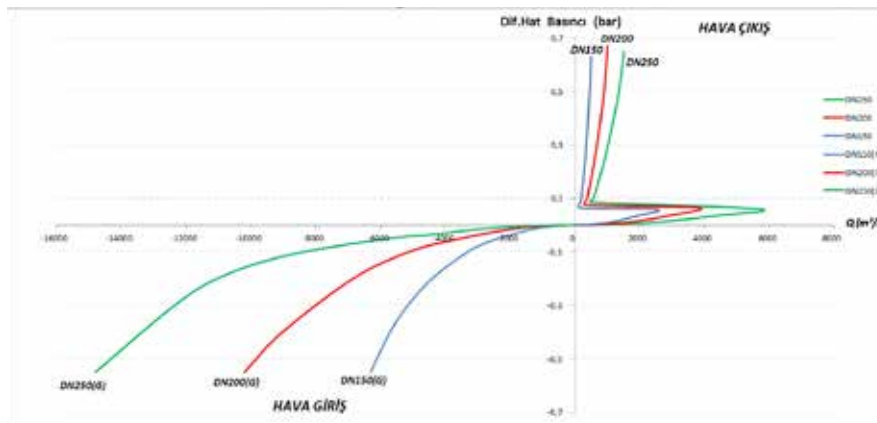
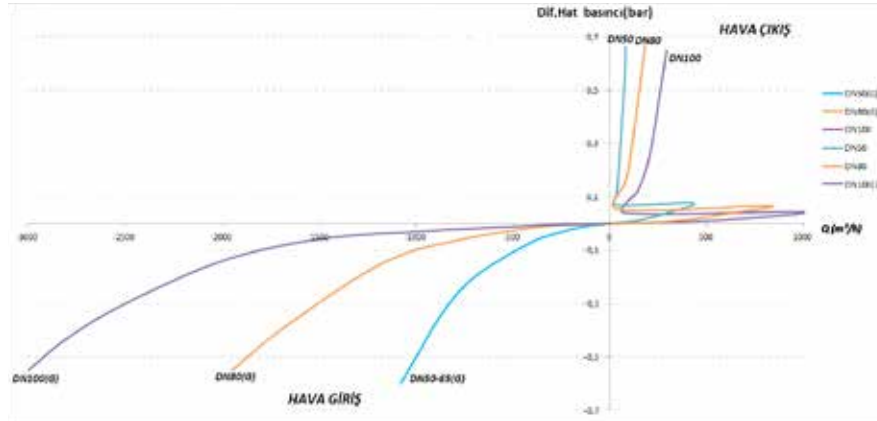
ARV placement interval alternative to Item 3 and 4; can be taken as PIPELINE DIAMETER DN (mm) X 1 (mt).

(DN1000 mm X 1mt. = 1000 mt)

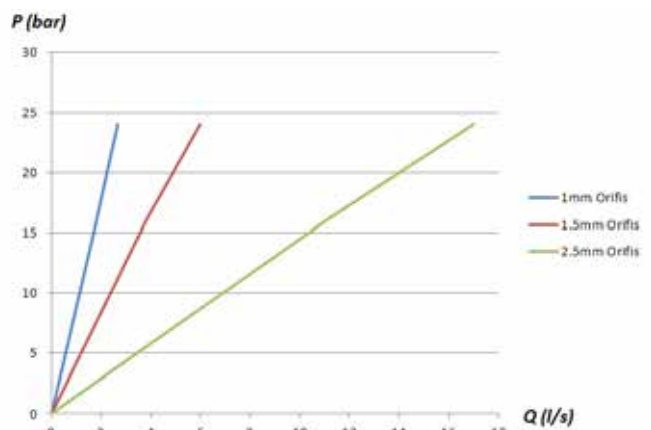
NON-SLAM DYNAMIC ARV

FAF 7330

General Information about ARV's ARV Selection Criteria



ORIFICE SELECTION	
ARV Size	Orifice Size
DN50	1mm
DN65	1mm
DN80	1.5mm
DN100	1.5mm
DN150	1.5mm
DN200	2.5mm
DN250	2.5mm



ARV Factory Acceptance Test Requirements

1. Reistance Test
2. Hydrostatic Test
3. Low Pressure Sealing Test
4. Air Release
5. Air Release under pressure
6. Vaccum tests

DOUBLE ORIFICE NON-SLAM (KINETIC) ARV FAF 7340



Features

- Double Orifice Non-Slam Kinetic ARV to be used for the purpose of vacuuming air into the pipe during emptying the pipeline due to maintenance or failure circumstances. In addition, to release small air particulates that may occur time to time during operation.
- Double Orifice Non-Slam Kinetic ARV is installed to the pipe with a flanged connection.
- One of the most important feature of Double Orifice Kinetic ARV compared to conventional type of Double Orifice ARV is that air outlet diameter has the same size with inlet diameter.
- Double Orifice Kinetic ARV's are known as four function ARV's; air release, air vacuum, prevent blocking due to sudden closure and re-releasing air under pressure with the help of the second orifice.
- Eliminates the problem of early closure.
- Provides a big advantage during installation and operation with its single body design and low weight.
- High resistant float parts made of HDPE eliminates the negative effects of deformation and abrasion.
- Ductile Iron Body, flanged connection according to EN 1092-2. Float part made of polyethylene which can be replaced easily.
- Body and cover of ductile iron with blue epoxy coating.
- Release valves can be manufactured with flanged or screwed ends.
- Working pressure range: 0.2 – 16 bar.

Temperature

- +130 °C (EPDM)

PRODUCTION STANDARTS

DN50 → DN250
PN 10-16

Design	EN 1074-4
End Connection	EN 1092-2 / ISO 7005-2
Marking	EN 19
Tests	EN 12266
Corrosion Protection	Industrial Epoxy

Product Description

FAF7340 Double Orifice Non-Slam Kinetic ARV; to be used for the purpose of releasing the existing air in the potable water transmission lines and water networks after installation or during emptying and refilling the pipeline due to maintenance works.

Accessories

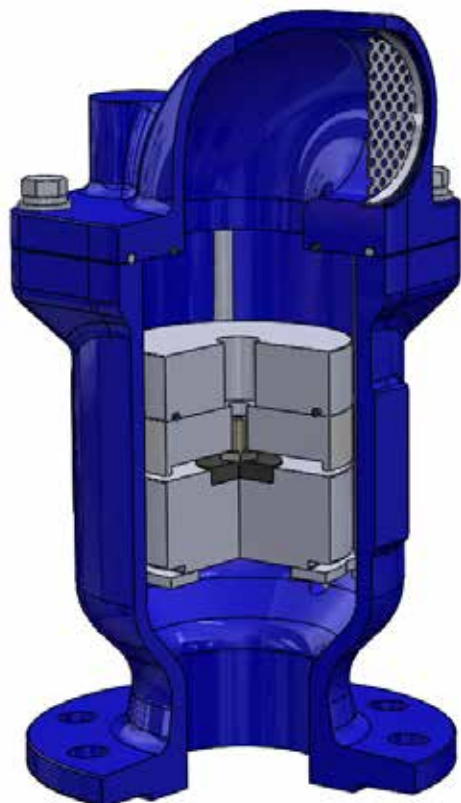
- Gate valve, FAF6000
- Butterfly valve, FAF3500-3600
- Flange adaptor, FAF3960

Scope of Application

- Pump suction lines
- Water lines
- Water supply network
- Line valves
- Venturimeters
- Plunger & turbine pumps

DOUBLE ORIFICE NON-SLAM (KINETIC) ARV

FAF 7340



PRODUCTS MODEL CODES

FAF7310	SINGLE ORIFICE ARV
FAF7320	DOUBLE ORIFICE ARV
FAF7330	NON-SLAM DYNAMIC ARV
FAF7340	DOUBLE ORIFICE NON-SLAM (Kinetic) ARV
FAF7350	COMBINATION (Underground -Street) ARV

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6

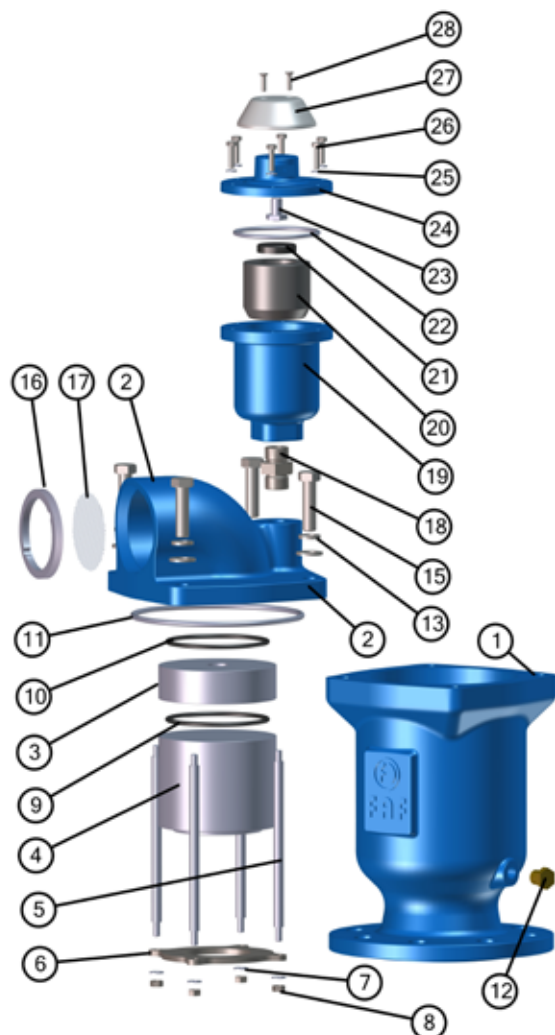
100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

- For proper use and safety precautions please follow the installation and operating instructions.

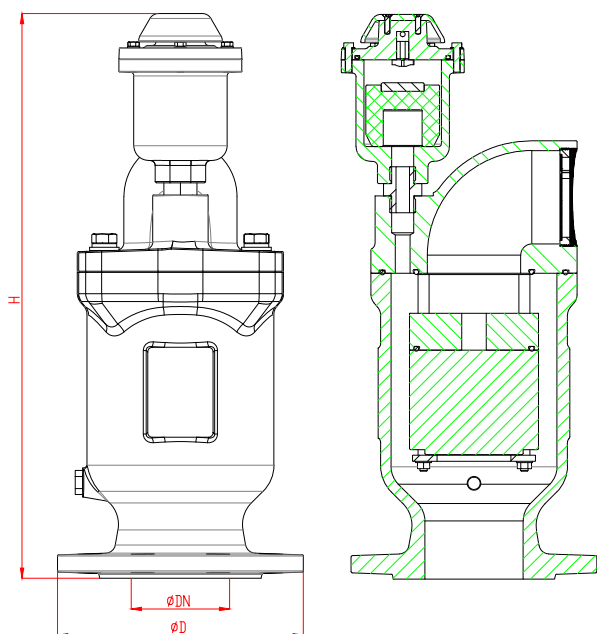
DOUBLE ORIFICE NON-SLAM (KINETIC) ARV FAF 7340

Material List



NO	ITEM	MATERIALS
1	BODY	EN GJS 500
2	BONNET	EN GJS 500
3	UPPER FLOAT	HDPE
4	LOWER FLOAT	HDPE
5	STUD	AISI304
6	FLANGE	AISI430
7	WASHER	AISI304
8	NUT	AISI304
9	O-RING	NBR - EPDM
10	O-RING	NBR - EPDM
11	O-RING	NBR - EPDM
12	NUT	BRASS
13	WASHER	AISI304
14	WASHER	AISI304
15	BOLT	AISI304
16	FILTER RING	AISI420
17	FILTER	AISI304
18	NIPPLE	AISI304
19	DN25 ARV BODY	EN GJS 500
20	DN25 ARV FLOAT	HDPE
21	SEALING	NBR - EPDM
22	O-RING	NBR - EPDM
23	ORIFICE	AISI420
24	DN25 ARV BONNET	EN GJS 500
25	WASHER	AISI304
26	BOLT	AISI304
27	COVER	PLASTIC
28	BOLT	ISO 10642

Technical Details & Drawing, Dimensions



DIMENSIONS		
DN (mm)	PN	D
DN50	165	431
DN80	200	460
DN100	220	511
DN150	285	680
DN200	340	762
DN250	400	800

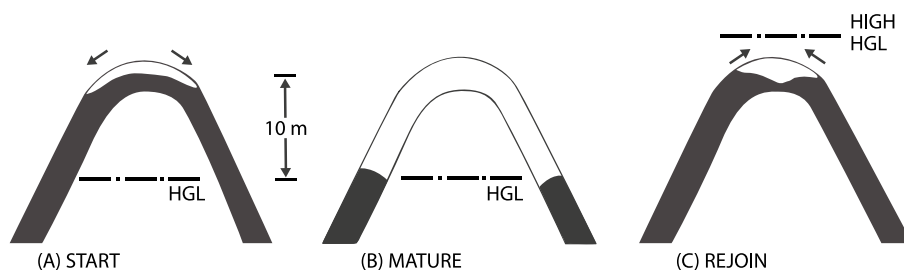
General Information about ARV's

Air vacuum and release is vital for the pipeline operation and safety. Many problems faced with the pipelines are actually related with the air left inside the pipe that cannot be released. Where does the air in the pipeline come from?

- Pipeline is already filled with air before filling with water.
- There exists 2% dissolved air in the water, which can vaporise by temperature change or pressure drop.
- Each pump absorbs a certain amount of air.
- Incorrect installations.

Effects of Air

- Air in the pipeline, narrows the filled water section and increases operating costs.
- Sometimes trapped air can stop the entire flow, depending on the nature of the pump



- At the peaks, the air that is trapped moves suddenly. This creates turbulence and vibration on the pipeline.
- Corrosion rate accelerates.
- Causes faulty flow meter readings.
- Affects the operation of control valves.
- At some cases, the jammed air arrives at such a moment that it causes the pipe to explode.

COMBINATION (UNDERGROUND-STREET) ARV FAF 7350



Features

- For the ARV's that are used on water transmission and main pipelines, manhole needs to be built, closed with a cover and needs to be locked. In order to ease the personnel interference to this manholes, it needs them to be in enough size.
- Manholes in general are built in concrete and secured by a concrete or steel cover.
- Considering the smallest size of these manholes to be 1,5x2mt., at mainstreets in cities where there is heavy traffic, at narrow streets, building these manholes is not possible, as a result excessive amount of pipe bursts, leakages are occurring and there are areas where water cannot be served enough.
- When maintenance is required, can be taken out completely without disturbing the system and cutting the water on the pipeline where it is installed, no need to dig the soil. And, after maintenance can be placed to its position in the same way and it continues to work.
- Combination ARV's are manufactured with DN50 and DN80 sizes, DN100 and DN150 sizes can be manufactured upon request.
- Combination ARV's are available with 0,75 -1,00-1,25 and 1,50 mt. height options. Upon request, higher dimensions can be manufactured. For the available sizes, the surface box dimension to be used should be 300mm.

Temperature

- +100 °C

PRODUCTION STANDARTS

DN50 → DN80
PN 10-16

Design	EN 1074-4
End Connection	EN 1092-2 / ISO 7005-2
Marking	EN 19
Tests	EN 12266
Corrosion Protection	Electrostatic Powder Epoxy

Product Description

FAF7350 Combination ARV is a special type of ARV where it eliminates the need for construction of manholes and its costs, can be connected to the pipeline directly without a service valve and where its main structure to be a non-slam dynamic ARV and buried underground.

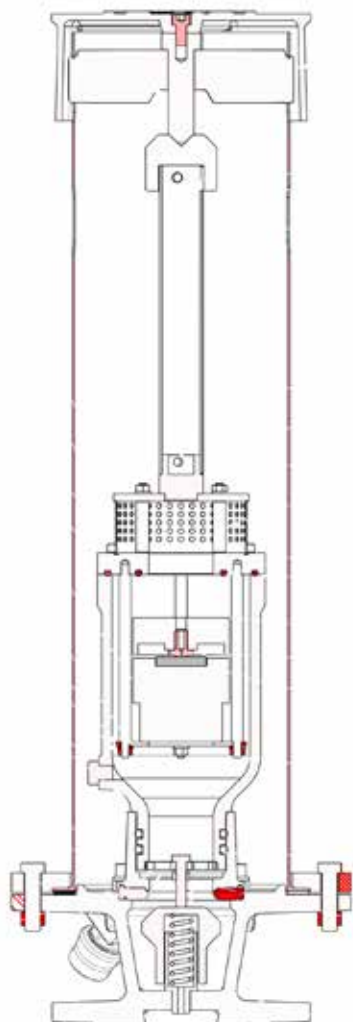
Accessories

- Gate valve, FAF6000
- Butterfly valve, FAF3500-3600
- Flange adaptor, FAF3960

Scope of Application

- Pump suction lines
- Water lines
- Water supply network
- Line valves
- Venturimeters
- Plunger & turbine pumps

COMBINATION (UNDERGROUND-STREET) ARV FAF 7350



MATERIAL SELECTION

ARV	Ductile Iron - EN GJS 500
Lower Flange	Ductile Iron - EN GJS 500
Cover	Stainless Steel
Upper Cap	Plastic
Filter	Stainless Steel
Seating House	Precision EN GJS 500
Check Valve	PE Disc with Spring

PRODUCTS MODEL CODES

FAF7310	SINGLE ORIFICE ARV
FAF7320	DOUBLE ORIFICE ARV
FAF7330	NON-SLAM DYNAMIC ARV
FAF7340	DOUBLE ORIFICE NON-SLAM (Kinetic) ARV
FAF7350	COMBINATION (Underground -Street) ARV

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6

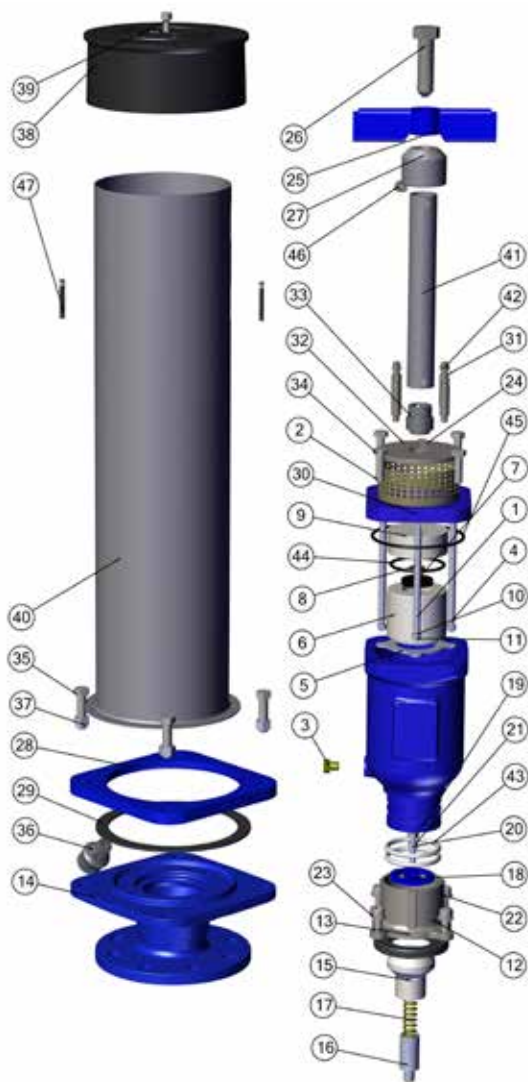
100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

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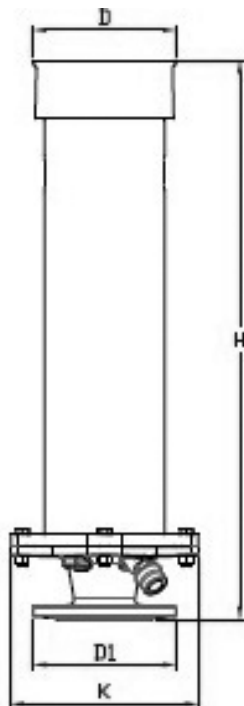
COMBINATION (UNDERGROUND-STREET) ARV FAF 7350

Material List



NO	ITEM	MATERIALS
1	BODY STUD	SS420
2	FILTER	SS430
3	NUT 1/2"	BRASS
4	BODY	GGG-50
5	FLANGE PLATE	SS420
6	LOWER FLOAT	HIGH DENSITY PE
7	FLOAT SEALING	EPDM
8	ORIFICE	SS420
9	UPPER FLOAT	HIGH DENSITY PE
10	M6 WASHER	SS304
11	M6 NUT	SS304
12	SOCKET FLANGE	SS304
13	CHECKVALVE SEALING	EPDM
14	50-80 FLANGE	GGG-50
15	CHECKVALVE	POM
16	CHECKVALVE PIN	POM
17	SPRING	SS316
18	CENTERING PLATE	SS420
19	CHECKVALVE COMPRESSION BOLT	SS304
20	M8 NUT	SS304
21	M8 WASHER	SS304
22	M 10 BOLT	SS304
23	M 10 WASHER	SS304
24	PIPE LOWER FIXING BOLT	SS304
25	CENTERING SHEET	GGG-50
26	COMPRESSION BOLT	SS304
27	COMPRESSION FLANGE	SS420
28	FIXING FLANGE	GGG-50/S127
29	BODY SEALING	EPDM
30	ARV BONNET	S1-37
31	FILTER PIN	SS420
32	FILTER BONNET	ST-37
33	PIPE CENTERING PIECE	SS304
34	BOLT+WASHER	SS304
35	BOLT+WASHER	SS304
36	DISCHARGE	GGG-50
37	M12 NUT WASHER	SS304
38	BONNET	GGG-50
39	M8 BONNET FIXING BOLT	SS304
40	COVER PIPE	SS304
41	CENTERING PIPE	SS304
42	M8 NUT+WASHER	SS304
43	ARV O-RING	EPDM
44	FLOAT O-RING	EPDM
45	BONNET O-RING	EPDM
46	PIPE UPPER FIXING BOLT	SS304
47	SIDWAY CAPS	EPDM

Technical Details & Drawing, Dimensions



DIMENSIONS

SIZE	D	D1	K	H
DN50	189	165	263	936-1036
DN80	189	200	263	936-1036

Min. Working Pressure	0,8 BAR
Max. Working Pressure	16 BAR
Hydrostatix Test Pressure	17.6 BAR
Shell test Pressure	24 BAR
Max Air Flow	900 m³/h

General Information About Arv's

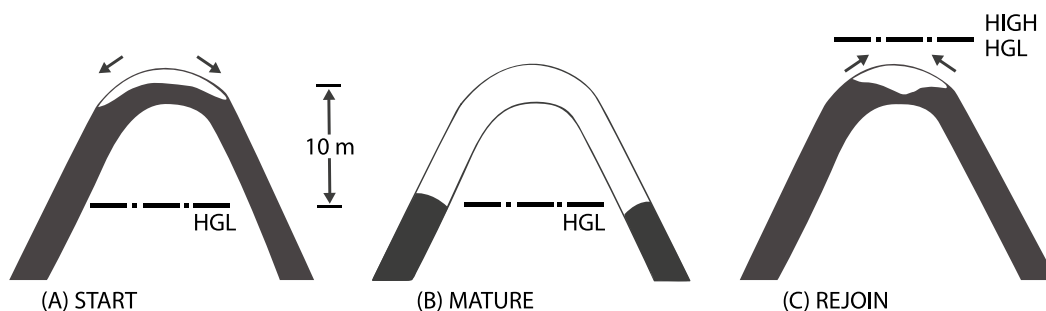
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HYDRAULIC CONTROL VALVES

FAF 7400 Series



Features

- Due to rubber diaphragm in closed valve, it ensures positive seal.
- Provides minimum pressure loss and free flow in open valve at demanded flow amounts.
- The only moving part that regulates open/closed and modulation positions in valve is the diaphragm.
- Line pressure in valve can be controlled by exterior pressure weld equivalent to line pressure.
- Easy use and maintenance due to simple design
- There is no corroding shaft, palier or gasket in valves.
- Does not require maintenance in operation for a long time due to its corrosion resistant components.
- Has a long working life in operation since coating has been made with phosphorization and over-dried epoxy powder paint.
- Performs perfect modulation in variable flows and even too low flow rates close to zero.
- Has a wide range of application with use of different pilot valves.

Temperature

- -10 °C +80 °C

Control by a pilot valve bound to the valve;

- Open Position: Trapped pressure in the actuator suppresses the pressure on the diaphragm and valve is opened when the relief port on pilot valve is completely opened.
- Modulation Position: Pilot valve ensures the diaphragm to stay in a fixed position in adjusting position by balancing the pressure and flow in and out of the actuator.

Working Principle



PRODUCTION STANDARTS

DN50 → DN300

Operation Pressure	0,7 - 16 bar (10 - 240 psi)
Connection	Flanged EN1092-2 Threaded ISO (BSP) - ANSI (NPT)
Corrosion Protection	Electrostatic Powder Epoxy

Product Description

FAF7400 Hydraulic Control Valve Series are designed to assume control for pressure, flow and water level, are automatic hydraulic control valves running by network pressure. These valves running by network pressure are used for agricultural irrigation, supply of water fire extinguishing, and various applications of industrial systems.

Working Principle

Control by three-way selector valve that is bounded

- Closed Position: Flow over the actuator is provided by inlet port or an exterior pressure supplier and valve is closed by applying pressure onto the diaphragm.
- Open Position: Once the trapped pressure in valve actuator is relieved, interior line pressure moves the diaphragm upward, valve is opened and free flow is provided.
- Modulation Position: It ensures the diaphragm to stay in a fixed position by balancing the flow in and out of the actuator.

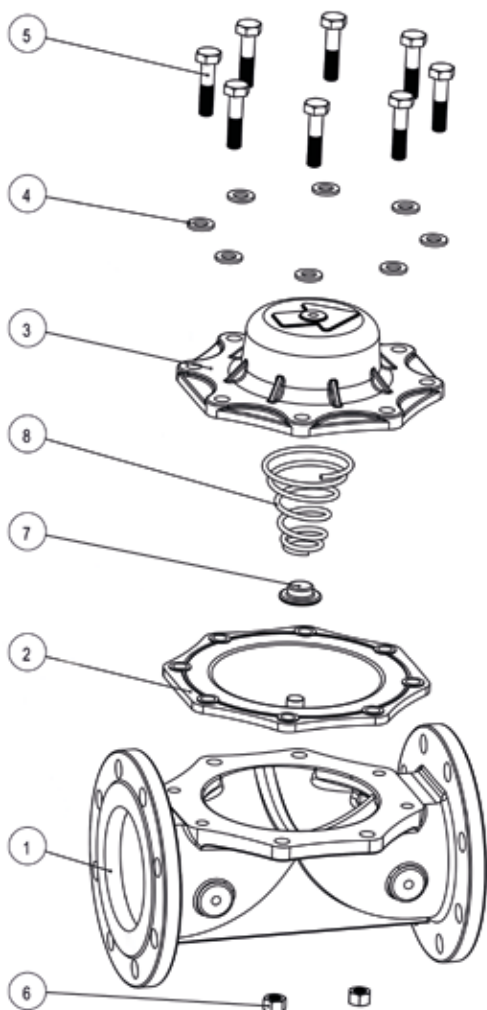
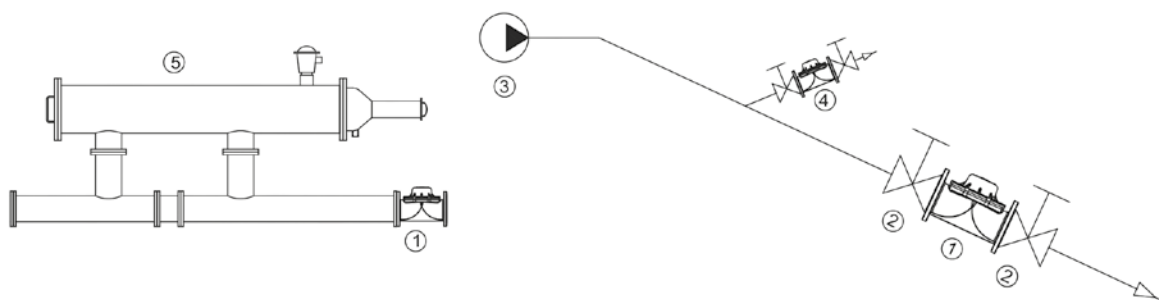
Scope of Application

- Agricultural irrigation
- Supply of water fire extinguishing
- Various applications of industrial systems.
- Oil & gas applications
- Household implementation

HYDRAULIC CONTROL VALVES

FAF 7400 Series

Model Application



NO	PARTS
1	Pressure Sustaining Control Valve
2	Insulating Valve
3	Pump
4	Line Valve
5	Automatic Filter

CONTROL VALVES MODEL CODES

FAF 7410	Pressure Reducing Control Valve
FAF 7420	Solenoid Controlled Pressure Reducing Control Valve
FAF 7430	Pressure Sustaining Control Valve
FAF 7440	Pressure Sustaining - Pressure Reducing Control Valve
FAF 7450	Pressure Relief Control Valve
FAF 7460	Float Level Control Valve
FAF 7470	Electric Float Level Control Valve
FAF 7480	Surge Anticipating Control Valve
FAF 7490	Flow Control Valve
FAF 7500	Horizontal Pump Control Valve
FAF 7510	Vertical Pump Control Valve
FAF 7520	Solenoid Control Valve
FAF 7530	Manual Control Valve

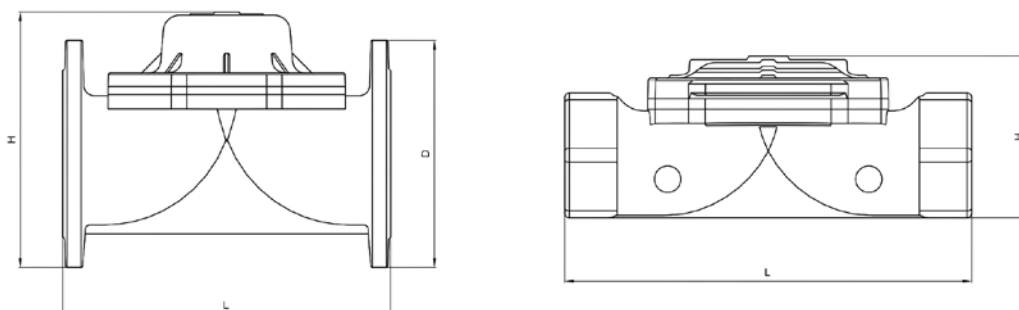
NO	ITEM	MATERIALS
1	BODY	EN-GJL-250 CAST IRON (GG25)
2	DIAPHRAM	COURT FABRIC-REINFORCED NATURAL RUBBER
3	COVER	EN-GJL-250 CAST IRON (GG25)
4	WASHER	PLATED STEEL
5	BOLT	PLATED STEEL
6	NUT	PLATED STEEL
7	SPRING THRUST RING	POLYAMID
8	SPRING	SST 302

VALVE TEST PRESSURE (Bar)

MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
16	24	17,6
100% of the valves are subjected to leakiness tests at FAF facilities.		



Dimensions And Weight



Flanged Valves

DN		L		D		H		WEIGHT	
inch	mm	inch	mm	inch	mm	inch	mm	lbs	kg
2"	50	8	204	6.4	165	6.4	165	33	15
2½"	65	8.1	206	7.2	185	7.2	185	36	16.5
3"	80	11.4	290	7.8	200	7.8	200	57	26
4"	100	11.6	296	8.6	220	8.6	220	61	28
5"	125	12.3	314	9.8	250	9.8	250	72	33
6"	150	16.2	413	11.2	285	12.6	321	125	57
8"	200	18.5	470	13.3	340	18.8	403	187	85
10"	250	18.5	470	16	407	17	433	226	103
12"	300	20.8	530	18.3	466	19.5	497	316	145

Threaded Valves

DN		L		H		WEIGHT	
inch	mm	inch	mm	inch	mm	lbs	kg
2"	50	8.1	206	4.2	107	28.6	13
2½"	65	9	230	4.3	110	30.8	14
3"	80	13.7	350	5.7	145	44	20

Suggested Operating Valves

Operating Pressure	Standard	0,7 - 16 bar (10 - 240 psi)
Temperature	Minimum Operating Temperature	-10°C
	Maximum Operating Temperature	+80°C
Connec tion	Flanged	EN1092-2 ISO 7005-2
	Threaded	ISO (BSP) - ANSI (NPT)
Coating	Standard	Polyester
	Optional	Epoxy

TECHNICAL DATA

FLUID COMPATIBILITY CHART

CHEMICAL/FLUID	RUBBER					METAL				
	NBR	MVQ (silicon)	FKM (Viton)	EPDM	PTFE	Carbon Steel	Cast Iron	Stainless Steel		Bronze
								304	316	
1-2 = AP PROPRIATE 3 = CAN BE USED WHEN OBLIGED TO 4 = SHALL BE TESTED BEFORE USE 5 = NOT APPROPRIATE										
Ammonia	2	5	3	1	1	1	1	1	1	5
Ammonium Sulfate	1	4	1	1	1	5	5	3	1	3
Aniline	3	3	3	5	1	5	5	1	1	5
Acetic Acid	3	5	3	2	1	5	5	3	3	3
Acetylene	1	1	1	1	1	1	1	1	1	1
Acetone	3	3	3	1	1	1	1	1	1	1
Asphalt	5	5	4	5	1	1	1	1	1	1
Waste Water	2	1		1	1	1	5	1	1	1
Boric Acid (Diluted)	1	1	1	1	1	5	5	1	1	1
Steam	5	5		1	1	5	5	1	1	3
Butane (Gas)	1	4	1	3	1	1	1	1	1	1
Mud	1			5		3	3	1	1	
Sea Water	1	1	1	1	1	3	3	3	3	1
Diesel Fuel	1	2	1	3	1		5	1	1	3
Natural Gas	1		1	5	1	1	1	1	1	1
Fuel Oil	3		1	5		3	5	1	1	1
Phosphoric Acid (Diluted)	3	5	1	1	1	5	5	3	3	5
Gas Oil	1		1	5		3	5	1	1	3
Glucose (Diluted)	1	1	1	1	1	1	1	1	1	1
Weather	1	1	1	1	1	1	1	1	1	1
Glucose (Diluted)	1	1	1	1	1	1	1	1	1	1
Hydrogen	1	1	1	1	1	1	1	1	1	1
Carbon Dioxide (Dry)	1	1	1	1	1	5	5	1	1	1
Tar	3	5	4	3	1	1	1	1	1	1
Chromic Acid (Diluted)	3	5	1	4	1	5	5	5	3	5
Methanol	2	1		1	1	1	1	1	1	1
Mineral Water	1	1	1	1	1	3	5	1	1	1
Mineral Oil	1	2	1	3	1	5	5	5	5	5
Nitric Acid (Concentrated)	3	5	3	3	1	5	5	1	3	5
Oil	1		1	5			5	3	5	5
Propane (Liquid, Gas)	1	1	1	5	1	1	1	1	1	1
Citric Acid (Diluted)	1	4	1	1	1	5	5	3	1	1
Sodium Sulfate	1	4	1	1	1	5	5	1	1	5
Nitrate Of Soda	1	4	1	1	1		5	1	1	3
Water	1	2	1	1	1	1	1	1	1	1
Milk	1	1	1	2	1	5	5	1	1	1

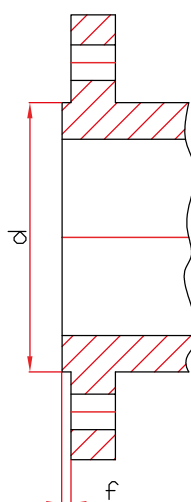
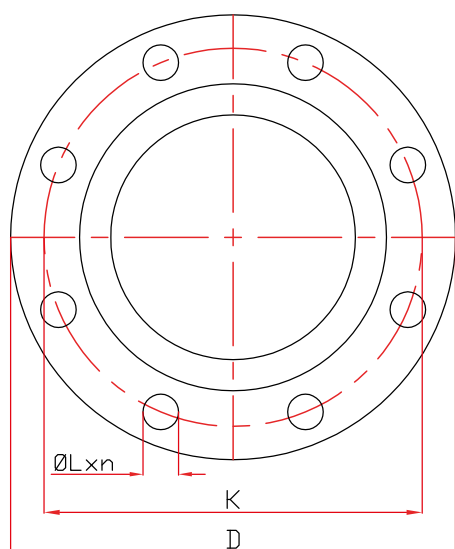
TECHNICAL DATA

GASKET SIZE CHART

DN	INTERIOR DIA (d)	EXTERIOR DIA (D)				
mm		PN6	PN10	PN16	PN25	PN40
15	22	44	51	51	51	51
20	27	54	61	61	61	61
25	34	64	71	71	71	71
32	43	76	82	82	82	82
40	49	86	92	92	92	92
50	61	96	107	107	107	107
65	77	116	127	127	127	127
80	89	132	142	142	142	142
100	115	152	162	162	168	168
125	141	182	192	192	194	194
150	169	207	218	218	224	224
200	220	262	273	273	284	290
250	273	317	328	329	340	352
300	324	373	378	384	400	417
350	356/368	423	438	444	457	474
400	407/420	473	489	495	514	546
450	458/470	528	539	555	564	571
500	508/520	578	594	617	624	628
600	610/620	679	695	734	731	747
700	712/720	784	810	804	833	
800	813/820	890	917	911	942	
900	915/920	990	1017	1011	1042	
1000	1016/1025	1090	1124	1128	1154	

TECHNICAL DATA

DIN FLANGE DIMENSIONS

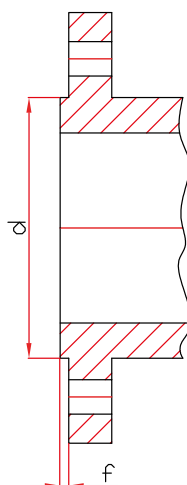
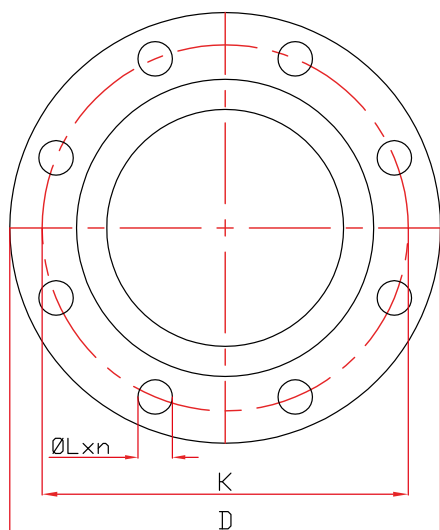


- D : Flange external diameter
- d : Gasket surface diameter
- f : Gasket surface length
- K : Stud holes axial diameter
- L : Stud hole diameter
- n : Number of Stud holes

DN	PN6						PN10						PN16						PN25						PN40					
mm	D	d	f	K	L	n	D	d	f	K	L	n	D	d	f	K	L	n	D	d	f	K	L	n	D	d	f	K	L	n
15	80	38	2	55	11	4	95	46	2	65	14	4	95	46	2	65	14	4	95	46	2	65	14	4	95	46	2	65	14	4
20	90	48	2	65	11	4	105	56	2	75	14	4	105	56	2	75	14	4	105	56	2	75	14	4	105	56	2	75	14	4
25	100	58	3	75	11	4	115	65	3	85	14	4	115	65	3	85	14	4	115	65	3	85	14	4	115	65	3	85	14	4
32	120	69	3	90	14	4	140	76	3	100	19	4	140	76	3	100	19	4	140	76	3	100	19	4	140	76	3	100	19	4
40	130	78	3	100	14	4	150	84	3	110	19	4	150	84	3	110	19	4	150	84	3	110	19	4	150	84	3	110	19	4
50	140	88	3	110	14	4	165	99	3	125	19	4	165	99	3	125	19	4	165	99	3	125	19	4	165	99	3	125	19	4
65	160	108	3	130	14	4	185	118	3	145	19	4	185	118	3	145	19	4	185	118	3	145	19	8	185	118	3	145	19	8
80	190	124	3	150	19	4	200	132	3	160	19	8	200	132	3	160	19	8	200	132	3	160	19	8	200	132	3	160	19	8
100	210	144	3	170	19	4	220	156	3	180	19	8	220	156	3	180	19	8	235	156	3	190	23	8	235	156	3	190	23	8
125	240	174	3	200	19	8	250	184	3	210	19	8	250	184	3	210	19	8	270	184	3	220	28	8	270	184	3	220	28	8
150	265	199	3	225	19	8	285	211	3	240	23	8	285	211	3	240	23	8	300	211	3	250	28	8	300	211	3	250	28	8
200	320	254	4	280	19	8	340	266	4	295	23	8	340	266	4	295	23	12	360	274	4	310	28	12	375	284	4	320	31	12
250	375	309	4	335	19	12	395	319	4	350	23	12	405	319	4	355	28	12	425	330	4	370	31	12	450	345	4	385	34	12
300	440	363	4	395	23	12	445	370	4	400	23	12	460	370	4	410	28	12	485	389	4	430	31	16	515	409	4	450	34	16
350	490	413	4	445	23	12	505	429	4	460	23	16	520	429	4	470	28	16	555	448	4	490	34	16	580	465	4	510	37	16
400	540	463	4	495	23	16	565	480	4	515	28	16	580	480	4	525	31	16	620	503	4	550	37	16	660	535	4	585	41	16
450	595	518	4	550	23	16	615	530	4	565	28	20	640	548	4	585	31	20	670	548	4	600	37	20	685	560	4	610	41	20
500	645	568	4	600	23	20	670	582	4	620	28	20	715	609	4	650	34	20	730	609	4	660	37	20	755	615	4	670	44	20
600	755	667	5	705	28	20	780	682	5	725	31	20	840	720	5	770	37	20	845	720	5	770	41	20	890	735	5	795	50	20

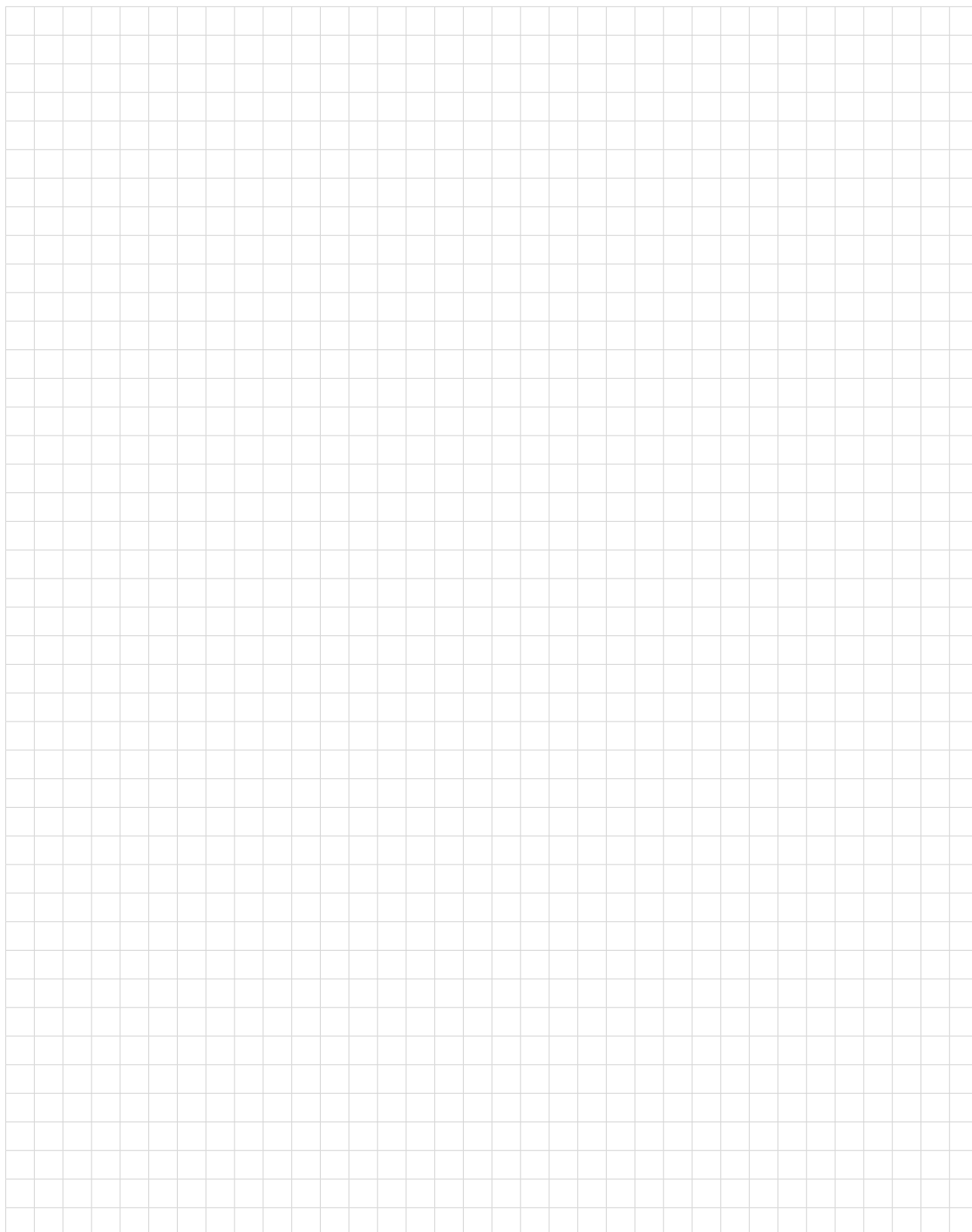
TECHNICAL DATA

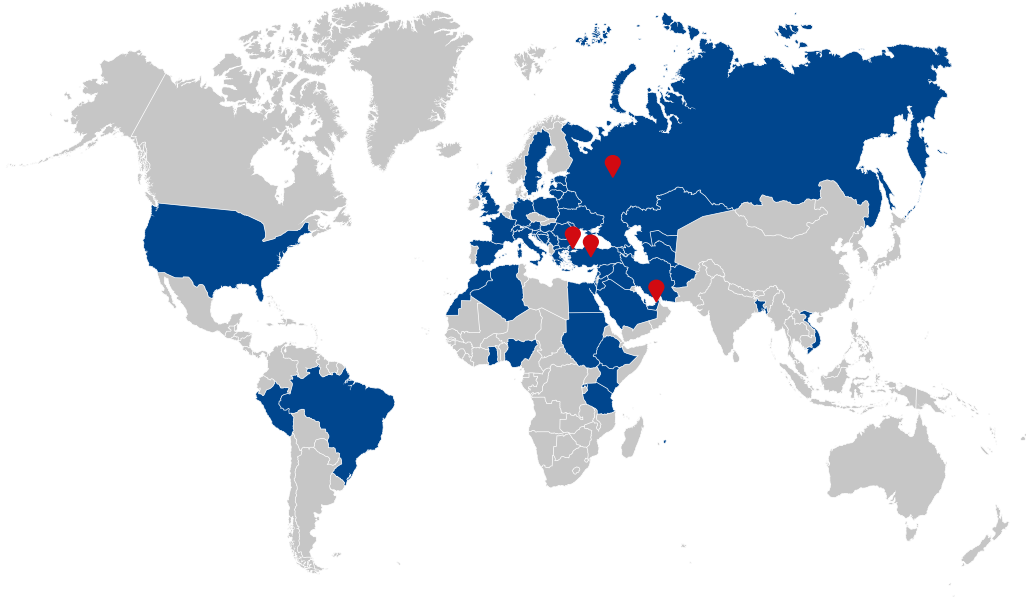
ANSI FLANGE DIMENSIONS



- D : Flange external diameter
- d : Gasket surface diameter
- f : Gasket surface length
- K : Stud holes axial diameter
- L : Stud hole diameter
- n : Number of Stud holes

DN	NPS	d	CLASS 150							CLASS 300							CLASS 600						
mm	inç		D	f	K	L inch(mm)	Bolt Size	n	D	f	K	L inch(mm)	Bolt Size	n	D	f	K	L inch(mm)	Bolt Size	n			
15	1/2"	35,1	90	1,6	60,3	5/8 (15,9)	1/2"	4	95	1,6	66,7	5/8 (15,9)	1/2"	4	95	6,4	66,7	5/8 (15,9)	1/2"	4			
20	3/4"	42,9	100	1,6	69,9	5/8 (15,9)	1/2"	4	115	1,6	82,6	3/4 (19,0)	5/8"	4	115	6,4	82,6	3/4 (19,0)	5/8"	4			
25	1"	50,8	110	1,6	79,4	5/8 (15,9)	1/2"	4	125	1,6	88,9	3/4 (19,0)	5/8"	4	125	6,4	88,9	3/4 (19,0)	5/8"	4			
32	1	63,5	115	1,6	88,9	5/8 (15,9)	1/2"	4	135	1,6	98,4	3/4 (19,0)	5/8"	4	135	6,4	98,4	3/4 (19,0)	5/8"	4			
40	1	73,2	125	1,6	98,4	5/8 (15,9)	1/2"	4	155	1,6	114,3	7/8 (22,2)	3/4"	4	155	6,4	114,3	7/8 (22,2)	3/4"	4			
50	2"	91,9	150	1,6	120,7	3/4 (19,0)	5/8"	4	165	1,6	127	3/4 (19,0)	5/8"	8	165	6,4	127	3/4 (19,0)	5/8"	8			
65	2	104,6	180	1,6	139,7	3/4 (19,0)	5/8"	4	190	1,6	149,2	7/8 (22,2)	3/4"	8	190	6,4	149,2	7/8 (22,2)	3/4"	8			
80	3"	127	190	1,6	152,4	3/4 (19,0)	5/8"	4	210	1,6	168,3	7/8 (22,2)	3/4"	8	210	6,4	168,3	7/8 (22,2)	3/4"	8			
100	4"	157,2	230	1,6	190,5	3/4 (19,0)	5/8"	8	255	1,6	200	7/8 (22,2)	3/4"	8	275	6,4	215,9	1 (25,4)	7/8"	8			
125	5"	185,7	255	1,6	215,9	7/8 (22,2)	3/4"	8	280	1,6	235	7/8 (22,2)	3/4"	8	330	6,4	266,7	1	1"	8			
150	6"	215,9	280	1,6	241,3	7/8 (22,2)	3/4"	8	320	1,6	269,9	7/8 (22,2)	3/4"	12	355	6,4	292,1	1	1"	12			
200	8"	269,7	345	1,6	298,5	7/8 (22,2)	3/4"	8	380	1,6	330,2	1 (25,4)	7/8"	12	420	6,4	349,2	1 1/4 (31,8)	1 1/8"	12			
250	10"	323,9	405	1,6	362	1 (25,4)	7/8"	12	445	1,6	387,4	1	1"	16	510	6,4	431,8	1 3/8 (34,9)	1 1/4"	16			
300	12"	381	485	1,6	431,8	1 (25,4)	7/8"	12	520	1,6	450,8	1 1/4 (31,8)	1 1/8"	16	560	6,4	489	1 3/8 (34,9)	1 1/4"	20			
350	14"	412,8	535	1,6	476,3	1	1"	12	585	1,6	514,4	1 1/4 (31,8)	1 1/8"	20	605	6,4	527	1 1/2 (38,1)	1 3/8"	20			
400	16"	469,9	595	1,6	539,8	1 1/8 (28,6)	1"	16	650	1,6	571,5	1 3/8 (34,9)	1 1/4"	20	685	6,4	603,2	1 5/8 (41,3)	1 1/2"	20			
450	18"	533,4	635	1,6	577,9	1 1/4 (31,8)	1 1/8"	16	710	1,6	628,6	1 3/8 (34,9)	1 1/4"	24	745	6,4	654	1 3/4 (44,4)	1 5/8"	20			
500	20"	584,2	700	1,6	635	1 1/4 (31,8)	1 1/8"	20	775	1,6	685,8	1 3/8 (34,9)	1 1/4"	24	815	6,4	723,9	1 3/4 (44,4)	1 5/8"	24			
600	24"	692,2	815	1,6	749,3	1 3/8 (34,9)	1 1/4"	20	915	1,6	812,8	1 5/8 (41,3)	1 1/2"	24	940	6,4	838,2	2 (50,8)	1 7/8"	24			





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