

Self-restrained dismantling joint FD type large stroke in ductile iron DN50-600



The self-restrained dismantling joint **FD type in ductile iron** allows the installation or removal of equipment between two fixed flanges of a pipeline.

The sliding system can reach a 50 mm displacement to ease the removal of the equipment. For this type of self-restrained dismantling joint the locking of the valve to the pipeline is made by the tie bars and the gland.

This piece is designed and manufactured in alimentary quality for potable water.

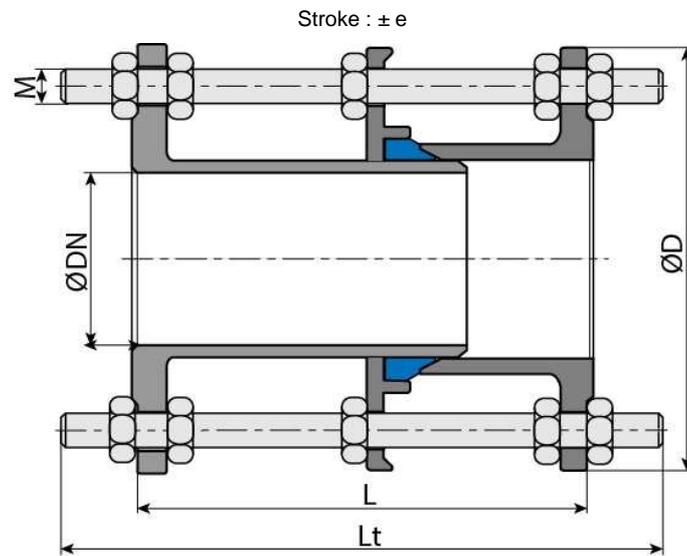
They have a mobile MALE PART and one fix FEMALE PART. Between these two parts there is an intermediate flange allowing a good closing and making a good seal in contact with seal joint.

Range

The self-restrained dismantling joints **FD type in ductile iron** exist in a range from DN50 to 600, for pressure **PN10 and PN16**.

DN <i>mm</i>	References PFA10	References PFA16
50	MDA50JABHD	MDA50JAAHD
60	MDA60JABHD	MDA60JAAHD
65	MDA65JABHD	MDA65JAAHD
80	MDA80JABHD	MDA80JAAHD
100	MDB10JABHD	MDB10JAAHD
125	MDB12JABHD	MDB12JAAHD
150	MDB15JABHD	MDB15JAAHD
200	MDB20JABHD	MDB20JAAHD
250	MDB25JABHD	MDB25JAAHD
300	MDB30JABHD	MDB30JAAHD
350	MDB35JABHD	MDB35JAAHD
400	MDB40JABHD	MDB40JAAHD
450	MDB45JABHD	MDB45JAAHD
500	MDB50JABHD	MDB50JAAHD
600	MDB60JABHD	MDB60JAAHD

Dimensions and mass



Dismantling joint in ductile iron PN10

DN <i>mm</i>	L <i>mm</i>	Ø D <i>mm</i>	Tie bars			Mass <i>kg</i>
			N	M	Lt	
50	205	165	4	M16	320	9,0
65	205	185	4	M16	320	11,1
80	205	200	8	M16	320	15,0
100	205	220	8	M16	320	15,8
125	210	250	8	M16	320	21,4
150	210	285	8	M20	330	26,7
200	210	340	8	M20	330	36,7
250	210	400	12	M20	330	51,1
300	235	455	12	M20	370	67,8
350	235	505	16	M20	370	
400	235	565	16	M24	370	95,4
500	235	670	20	M24	370	
600	235	780	20	M27	370	

Dismantling joint in ductile iron PN16

DN <i>mm</i>	L <i>mm</i>	Ø D <i>mm</i>	Tie bars			Mass <i>kg</i>
			N	M	Lt	
50	205	165	4	M16	320	9,0
65	205	185	4	M16	320	11,1
80	205	200	8	M16	320	15,0
100	205	220	8	M16	320	15,8
125	210	250	8	M16	320	21,4
150	210	285	8	M20	330	26,7
200	210	340	8	M20	330	36,7
250	210	400	12	M24	330	51,1
300	235	455	12	M24	370	67,8

**DISMANTLING JOINTS
VALVES**
DN 50 to 600

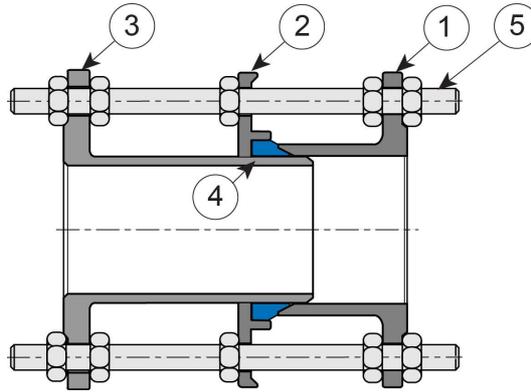


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DN <i>mm</i>	L <i>mm</i>	Ø D <i>mm</i>	Tie bars			Mass <i>kg</i>
			N	M	Lt	
350	235	520	16	M24	370	
400	235	580	16	M27	370	95,4
500	235	715	20	M30	370	
600	235	840	20	M33	370	

Material and coating



Item	Description	Material	Coating
1	Fixed body	Ductile iron 500-7 according to EN1563	Blue Epoxy Powder 250 µ mini according to EN14901 RAL 5005
2	Gland	Ductile iron 500-7 according to EN1563	
3	Sliding body	Ductile iron 500-7 according to EN1563	
4	Gasket	EPDM rubber	
5	Tie bars	Carbon steel	Hot Dipped Galvanized

Installation

The installation will be made using the tie rods. Tie rods must extend until the flange of the valve or of the piece connected to the dismantling joint.

Bolts used for the assembly must have the same metric and quantity of DN that flanges used.

Its length will have to be sufficient so that the ends of the nuts and bolts exceed at least of 1 centimeter of the external bolts.

Installation process:

Step 1: It is advised to check the length of final assembly of the dismantling joint, so that it is closest to its nominal measurement, to facilitate the assembly and the disassembling of this one.

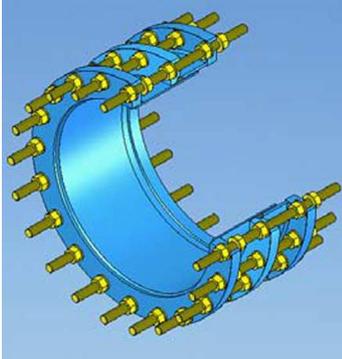
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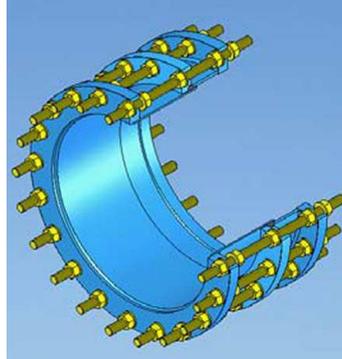
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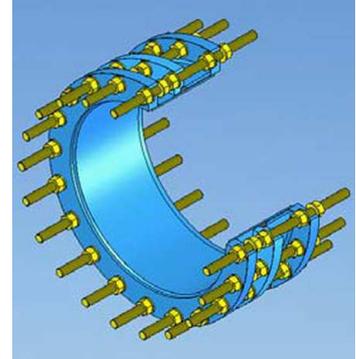
Minimal length



Assembly length



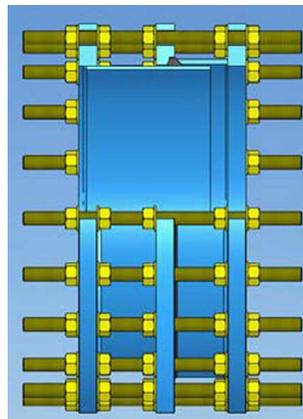
Max. length



DN <i>mm</i>	Assembly length <i>mm</i>	Tolerance of assembly ± <i>mm</i>
40 - 150	200	30
200 - 400	280	40
450 - 600	330	50

Step 2: The correct position for the assembly of the dismantling joint will be, water downstream from the female part and water upstream of the male part.

Direction of the water →



Note: for pipes with a water direction in the two sides (pipes of discharge), the dismantling joint will make the sealing in the two directions when the flow of water is contrary to the assembly indicated above, the pressure loss will be superior.

Step 3: To unscrew the bolts which tighten the intermediate flange as well as the internal bolts of the flanges of connection, to check that the male/female sliding is slowly made in order to avoid any stretching and/or scratch between the fixed and mobile parts (pyramidal joint, male and female).

Step 4: To place the dismantling joint in its final position, making sure that the position of the holes of the flange coincides with the position of the holes of the pieces to connect.

Note: The maximum tolerable angular deflections for the flanges (parallelism) of pieces to be connected will not exceed the following value of $0,25^\circ \times 1000/DN$ considering only the connection which is carried out with the tie rods does not enable a greater deflection than that caused by the tie rods with the holes of the flanges.

Step 5: To put the tightness seals on the flanges to be connected.

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Note: When the joint is installed, it must be able to avoid small imperfections of the flange like:

- Non parallel flanges
- Deformation of the channels
- Corrugated Surface
- Notch in surface
- Other imperfections on surface

Step 6: To separate the end flanges of the dismantling joint until its position of contact with the flanges of the pieces to be connected.

Step 7: To start the assembly of the nuts and bolts by forming a circle with all the tie rods, (at least to make 100% of all the holes of the external flanges).

Note: Be careful to never use less threaded rods than those which are determined by the flange.

Step 8: The tightening of the bolts and nuts is done directly on the flange in diagonal by taking the values of table 3, like orientation of the maximum tightening torque.

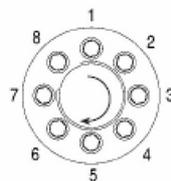
Note: The best output of the bolts/stems is done in the elastic zone.

For the design of the unions systems of joint/screw/flange to see Codes ASME section.

Step 9: To tighten the bolts of the intermediate flange by taking the values of table 3, as maximum value of the tightening torque with 85% of the elastic tension of the nuts and bolts to be used.

Indications to be followed for tightening:

1. To manually tighten initially the bolts by leaving width, then to tighten manually uniformly.
2. To use the torque wrench, to turn all bolts up to a maximum of 30% of the total of the tightening torque. To check that the flange is placed uniformly on the joint.
3. To turn until a maximum of 60% of the total of the tightening torque.
4. To turn until the total of the tightening torque.
5. Final tightening up to the total tightening torque, clockwise on the adjacent bolts.



Example of installation in diagonal:

- 1° step: Position 1-5
- 2° step: Position 2-6
- 3° step: Position 3-7

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4^o step: Position 4-8

Step 10: Once the installation is start up and with the appropriate working pressure, to check that there are no water losses on the sealing joints, by carrying out convenient tightening of the nuts and bolts until eliminating these losses.

DIN 272 Normal	Tightening torque in Nm
Metric	Cal: 6.8
M 16	178,50
M 18	245,50
M 20	384,10
M 22	470,70
M 24	598,20
M 27	887,50
M 30	1.206,00
M 33	1.628,00
M 36	2.099,00
M 39	2.716,00
M 42	3.364,00
M 45	4.207,00
M 48	5.080,00
M 52	6.541,00
M 56	8.149,00
M 60	10.101,00
M 64	12.160,00
M 68	14.863,00
M 72	17.787,00
M 76	21.071,00
M 80	24.733,00
M 90	35.880,00
M 27	887,50

Transport

The pieces will be transported assembled with all the components, without fixing the length of assembly (if the tie rods of assembly are not included) and while preventing that the once assembled elements do not move.

The equipment will be packed perfectly to avoid possible damage which would deteriorate the quality of coating.

The pallet used will be European with a dimension 800x1200 mm.

Marking

These plates are on all the provided equipment. They show all the “register dated” and controls on the dismantling joint.

To order spare parts, it is necessary to refer to this identifying plate.

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Packaging sticket

The packaging sticket form includes the PAM SAINT-GOBAIN logo, a 'Quantité : ' field, the product name 'JOINT DE DEMONTAGE AUTOBUTE FONTE FD', 'DN' and 'PN' fields, 'ref produit' and 'commande' fields, and 'EUROPALETTE N°' with a drawing of a pallet.

Product sticker

The product sticker form includes the PAM SAINT-GOBAIN logo, the product name 'JOINT DE DEMONTAGE AUTOBUTE FONTE FD', 'code SAP' field, and 'DN' and 'PN' fields, with a drawing of a pallet at the bottom.

Maintenance

Each year it is necessary to check the seals, to see whether they are lubricated or to change them.

Every two years the coating should be controlled. In case of serious scratches, the coating must be repaired.

Every ten years, the seals should be replaced.

Spare parts: Pyramidal joint

Never re-use this joint taking into account its important deformation. Even if the joint seems to be in good report, it should not be re-used. The price of a new joint is quite lower than the cost of work of assembling and disassembling of the joint because of later problems due to the re-use of the joint.

Compliance to Standards

For the FD Joint: These pieces comply with the standard **NFE 29220**, especially concerning the flanges dimensions according to the **NF EN 1092**.

The stroke range is higher than those required in the **NFE 29220**.