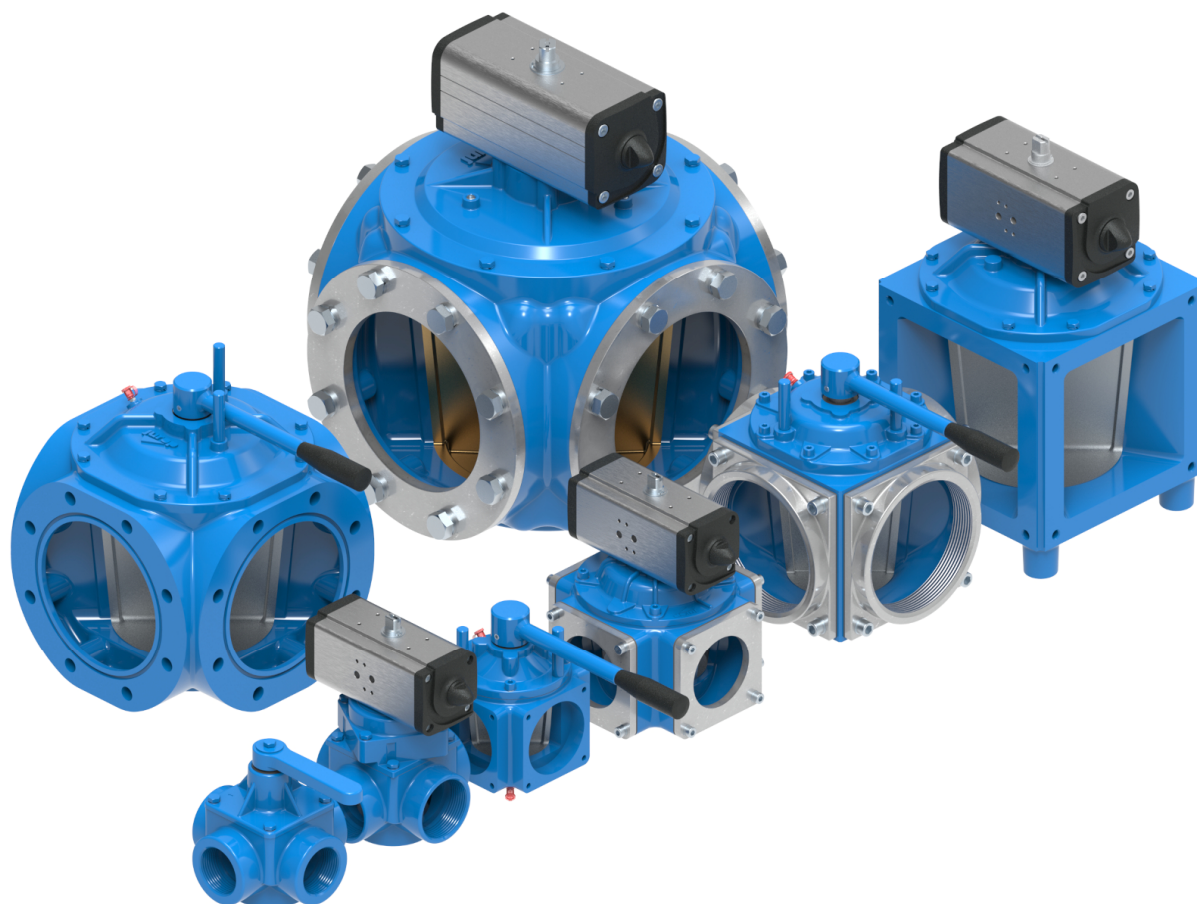


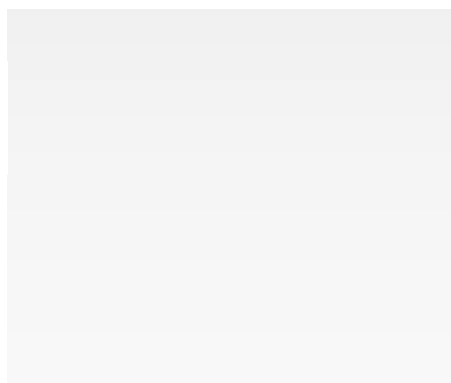
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VALVOLE A 4 VIE

ORIGINAL INSTRUCTIONS



TECHNICAL DATA SHEET



Rev. 06
17-05-2023

COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001

COMPANY WITH
ENVIRONMENTAL SYSTEM
CERTIFIED BY DNV
ISO 14001

1. General warnings

This technical data sheet contains technical information concerning 4-way valves and the main installation and maintenance instructions.

Complying with the instructions contained in this technical data sheet is crucial for the recognition of warranty against defective parts. Upon receiving the goods, ensure that they are intact and have not been accidentally damaged during transport. In the event parts of the accessory must be replaced, **use only genuine spare parts**.

2. Technical data

The 4-way valves are designed to be installed in correspondence of the vacuum / pressure line of equipment typically used to clean sewer lines and cesspits. The 4-way valves allow reversing the vacuum pump air flow, thereby pressurising the vacuum tank. This way, the operations to the discharge the material from the tank are optimised.

The 4-way valves can be **manual**, with manual actuation lever, or **pneumatic**, with pneumatic actuator.

They are available with various diameters (2", 2" ½, 3", 4", 6" e 8"), each of which with cast iron deviator (typically suitable for vane decompressors) and bronze or brass deviator (typically suitable for lobe decompressors). The DN150 and DN200 4-way valves are available. The plug is made of cast iron or brass for the DN150 version (only brass on the DN200 version). Brass is reducing friction and is spark-free.

The 4-way valves have different features, according to the diameter required. The 4-way valves can be divided into the following categories:

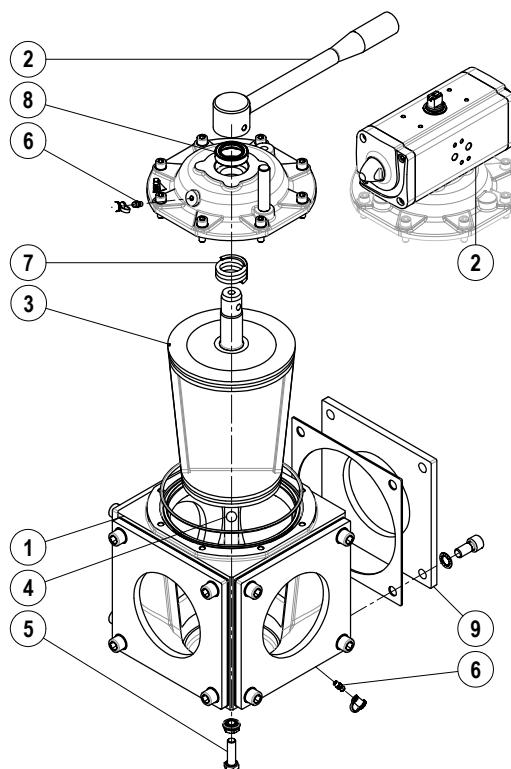
- **Manual 4-way valves with threaded manifold;**
- **Manual 4-way valve without flanges;**
- **Manual 4-way valve with flanges;**
- **Manual 4-way valve with threaded flanges;**
- **4-way valve with pneumatic actuator and threaded manifold;**
- **4-way valves with pneumatic actuator without flanges;**
- **4-way valves with pneumatic actuator with flanges;**
- **4-way valves with pneumatic actuator with threaded flanges.**

The following table shows the main operating parameters concerning maximum capacity and maximum pressure (relative) of the 4-way valves with respect to the available diameters. the indicated maximum supply pneumatic pressure refers to 4-way valves equipped with pneumatic actuator.

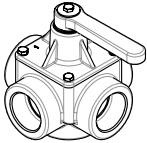
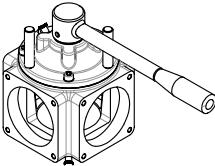
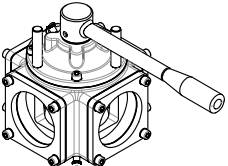
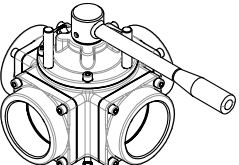
DESIGN PRESSURE (RELATIVE)	MAX PNEUMATIC PRESSURE
-1 / +4 bar	8 bar

The following figure shows a schematic diagram of a manual 4-way valve, highlighting the main components.

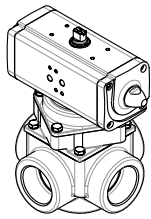
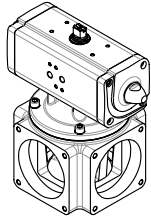
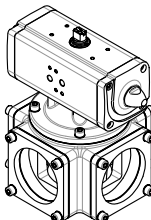
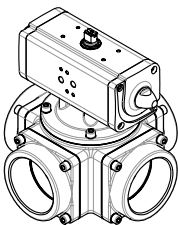
1	Valve body
2	Handle / Pneumatic actuator
3	Inside valve
4	½" ball
5	Adjustment screw
6	Greaser
7	Spring
8	Seal ring
9	Flange



The table in the following page shows in detail the available **manual 4-type valves** with respective identification code.

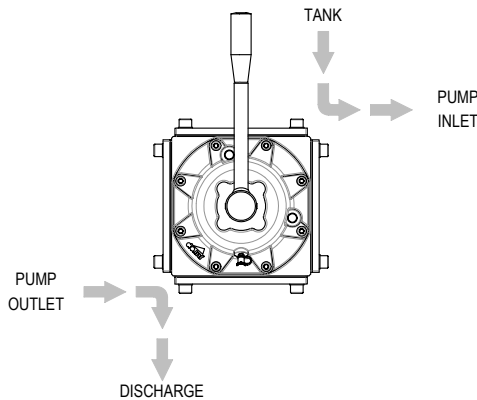
MANUAL 4-WAY VALVES DESCRIPTION		CODE	DIAMETER	THREAD	MATERIAL	WEIGHT [kg]
	WITH THREADED MANIFOLD	1488100000	2"	NPT	Cast iron	8,3
		1488106400	2"	GAS	Cast iron	8,2
		1488103600	2"	NPT	Bronze	8,5
		1488100100	2" ½	NPT	Cast iron	6,9
		1488106600	2" ½	GAS	Cast iron	6,6
		1488103700	2" ½	NPT	Bronze	6,8
	WITHOUT FLANGES	1488106200	3"	-	Cast iron	11,7
		1488104000	3"	-	Bronze	11,8
		1488102800	4"	-	Cast iron	18,4
		1488104400	4"	-	Bronze	18,8
		1488102100	6"	-	Cast iron	34,8
		1488104800	6"	-	Brass	26,6
		1488100500	8"	-	Cast iron	55,4
		1488105200	8"	-	Brass	58,1
		14881015E0	DN 150	-	Cast iron	53
		14881016E0	DN 150	-	Brass	56
		14881006E0	DN 200	-	Brass	104
	WITH CAST IRON FLANGES	1488101100	3"	-	Cast iron	13,7
		1488104100	3"	-	Bronze	13,8
		1488103000	4"	-	Cast iron	22,1
		1488104500	4"	-	Bronze	22,6
		1488102300	6"	-	Cast iron	34,8
		1488104900	6"	-	Brass	35,3
		1488101500	8"	-	Cast iron	72
		1488105300	8"	-	Brass	74,1
		14881020E0	DN 150	-	Cast iron	77,5
		14881021E0	DN 150	-	Brass	80,2
		14881010E0	DN 200	-	Brass	136
	WITH STAINLESS STEEL FLANGES	14881022E0	DN 150	-	Cast iron	77,5
		14881023E0	DN 150	-	Brass	80,3
		14881008E0	DN 200	-	Brass	130
	WITH THREADED FLANGES	1488100200	3"	NPT	Cast iron	17,2
		1488106800	3"	GAS	Cast iron	17,1
		1488105600	3"	NPT / GAS	Bronze	17,2
		1488103200	4"	NPT	Cast iron	23,8
		1488107000	4"	GAS	Cast iron	23,8
		1488105800	4"	NPT	Bronze	24,3
		1488107400	4"	GAS	Bronze	24,2
		1488102500	6"	NPT	Cast iron	36,1
		1488107200	6"	GAS	Cast iron	36,6
		1488106000	6"	NPT	Brass	36,6
		1488107600	6"	GAS	Brass	37,1

The table in the following page shows in detail the available **4-way valves with pneumatic actuator** with respective identification code.

4-WAY VALVES WITH PNEUMATIC ACTUATOR DESCRIPTION		CODE	DIAMETER	THREAD	MATERIAL	WEIGHT [kg]
	WITH THREADED MANIFOLD	14881BERB0	2"	NPT	Cast iron	12,8
		1488106500	2"	GAS	Cast iron	12,8
		1488103800	2"	NPT	Bronze	13,1
		1488103400	2" ½	NPT	Cast iron	11,6
		1488106700	2" ½	GAS	Cast iron	11,2
		1488103900	2" ½	NPT	Bronze	11,5
	WITHOUT FLANGES	14881DARB0	3"	-	Cast iron	13,2
		1488104200	3"	-	Bronze	13,3
		1488102900	4"	-	Cast iron	19,8
		1488104600	4"	-	Bronze	20,2
		1488102200	6"	-	Cast iron	27,7
		1488105000	6"	-	Brass	28,2
		14881BWPB0	8"	-	Cast iron	59
		1488105400	8"	-	Brass	61,8
		14881013E0	DN 150	-	Cast iron	56
		14881014E0	DN 150	-	Brass	59
		14881005E0	DN 200	-	Brass	108
	WITH CAST IRON FLANGES	14881BNQB0	3"	-	Cast iron	15,3
		1488104300	3"	-	Bronze	15,4
		1488103100	4"	-	Cast iron	23,6
		1488104700	4"	-	Bronze	24
		1488102400	6"	-	Cast iron	36,4
		1488105100	6"	-	Brass	36,8
		14881BXBB0	8"	-	Cast iron	75,6
		1488105500	8"	-	Brass	78,4
		14881024E0	DN 150	-	Cast iron	81,1
		14881025E0	DN 150	-	Brass	83,8
		14881009E0	DN 200	-	Brass	136
	WITH STAINLESS STEEL FLANGES	14881026E0	DN 150	-	Cast iron	81,2
		14881027E0	DN 150	-	Brass	83,9
		14881007E0	DN 200	-	Brass	130
	WITH THREADED FLANGES	14881BRPB0	3"	NPT	Cast iron	18,7
		1488106900	3"	GAS	Cast iron	18,6
		1488105700	3"	NPT / GAS	Bronze	18,7
		1488103300	4"	NPT	Cast iron	25,2
		1488107100	4"	GAS	Cast iron	25,2
		1488105900	4"	NPT	Bronze	25,7
		1488107500	4"	GAS	Bronze	25,6
		1488102600	6"	NPT	Cast iron	37,7
		1488107300	6"	GAS	Cast iron	38,2
		1488106100	6"	NPT	Brass	38,1
		1488107700	6"	GAS	Brass	38,7

3. Installation

- The 4-way valve is designed to be installed in correspondence of the vacuum line in close proximity of the vacuum/pressure pump.
- The following figure shows a schematic diagram of the flow directions through the 4-way valve (the flows refer to the vacuum mode).
- Rotating the internal valve (by turning the handle or activating the pneumatic actuator) reverse the flows that cross the valve; this way, the decompressor can be used in both suction and pressure mode.

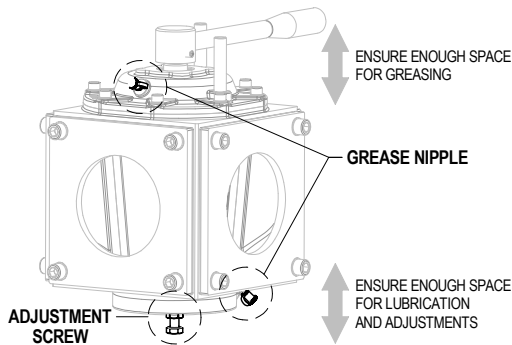


Pic. 3.1

- In the event of manual 4-way valves, the activation handle must be fully turned to reverse the flows that cross the valve.
- During installation, we recommend ensuring enough space to fully turn the control handle.



Attention: if the handle is not fully turned, it can cause vacuum/pressure drops (i.e. the air recirculates inside the pump).



Pic. 3.2

- During installation, ensure that the grease nipples on the valve body and the adjustment screw located on the lower base are easily accessible.



Attention: during installation, ensure enough space for adjustment and maintenance operations.

- Figure 3.2 shows the position of the grease nipples and adjustment screws.

- Extraordinary maintenance operations can require the upper cover (and that of the actuator, either manual or pneumatic) to be removed. We recommend ensuring enough space to carry out such operations.

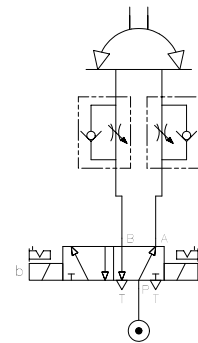
Pneumatic actuator installation

Pneumatic actuator	
Fluid	Filtered, dried compressed air
Filtration	ISO 8573-1 classe 4 (15 micron)
Temperature	-20 ÷ +80 °C
Rated pressure	5.6 bar
Maximum pressure	8.4 bar
Supply holes	G 1/4

- Adjust movement speed by applying two unidirectional flow control valves.
- Adjust speed: full rotation should not take less than 1 second.
- Fluid filtration: ensure a level equal to or greater than the recommended value.
- In the event of a supply failure, the suction unit inverter will remain in the same position it was when the failure occurred.

Maintenance

- The following figure shows a possible schematic view of a pneumatic connection.



Pic. 3.3

- The diverter is adjusted before shipment and does not usually require further adjustments.
- Diverter lubrication:
Use Lithium grease NLGI 2. Quantity: 80-100 g every 1000 working cycles.
Do not grease using excessive amounts of grease.
- For non-dried air, use temperature 0 ÷ +80°C.
- In case of interruption of the pneumatic or hydraulic supply, the inverter of the suction unit remains in the same position it was when the failure occurred.

4. Maintenance and adjustment

• Maintenance of 4-way valves depends on the type of decompressor installed on the vacuum line.

• In the event of a vane decompressor (lubricated by injecting oil inside the pumping chamber), the suspended oil inside the drain is usually enough to ensure the lubrication of the 4-way valve.

• In the event of a lobe decompressor (lubrication-free), the ordinary 4-way valve greasing operation is required. This operation must be carried out using the ball-type grease nipples on the valve. The following figure shows the position of the grease nipples (Fig. 3.2).

• For greasing operations, use **NLGI 2 grease**. Lubricate when needed and according to the frequency of use (indicatively **every 1000 cycles**).

• The amount of grease to be used depends on the diameter of the 4-way valve.

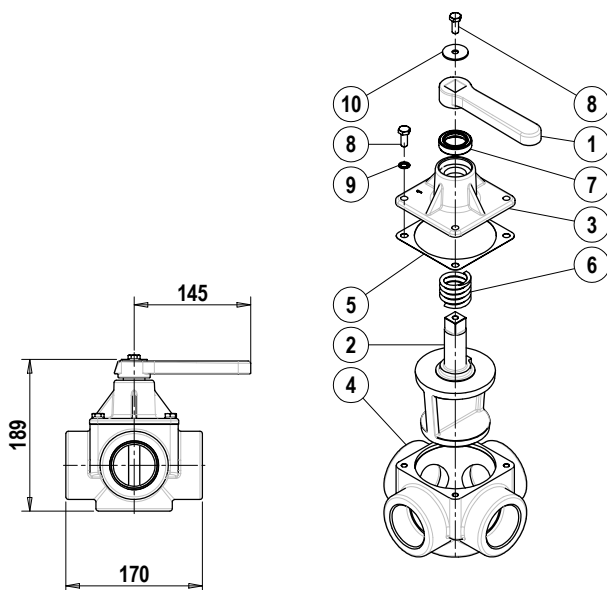
• We recommend complying with the amount of grease indicated below:

- 2" and 2" ½ 4-way valves, approx. 10g of grease for every greasing point;
- 3" 4-way valves, approx. 50g of grease for every greasing point;

- 4" 4-way valves, approx. 50g of grease for every greasing point;
- 4" 6-way valves, approx. 100g of grease for every greasing point;
- 8" 4-way valves, approx. 100g of grease for every greasing point.
- Periodically check proper inside valve rotation. In the event it does not rotate properly or it gets stuck, regulate the adjustment valve located on the lower part. Proceed as follows.
 - Loosen the counter nut.
 - Tighten the screw in attempts of one quarter of a turn, until the inside valve moves freely.
 - Secure the screw using the counter nut.
 - Grease moderately using a hand pump.
 - Move the inside valve repeatedly (either manually or pneumatically) to spread the grease evenly.
- The figure 3.2 shows the position of the adjustment screw.
- We recommend replacing the seal ring approximately every two years.

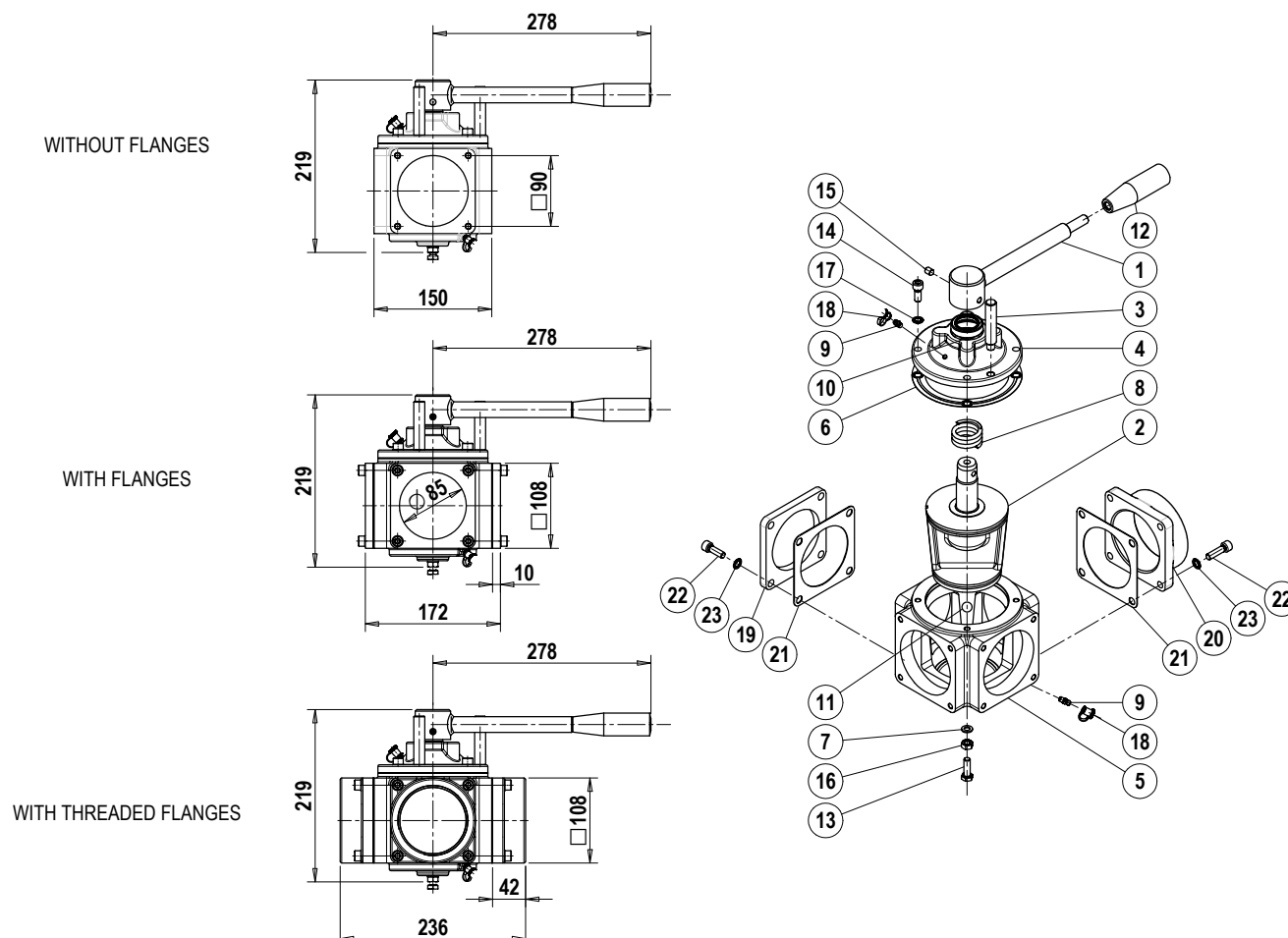
SPARE PART DATA SHEET – MANUAL 4-WAY VALVES

DESCRIPTION	CODE	DIAMETER	THREAD	MATERIAL
MANUAL 4-WAY VALVES WITH THREADED MANIFOLD	1488100000	2"	NPT	Cast iron
	1488106400	2"	GAS	Cast iron
	1488103600	2"	NPT	Bronze
	1488100100	2" ½	NPT	Cast iron
	1488106600	2" ½	GAS	Cast iron
	1488103700	2" ½	NPT	Bronze



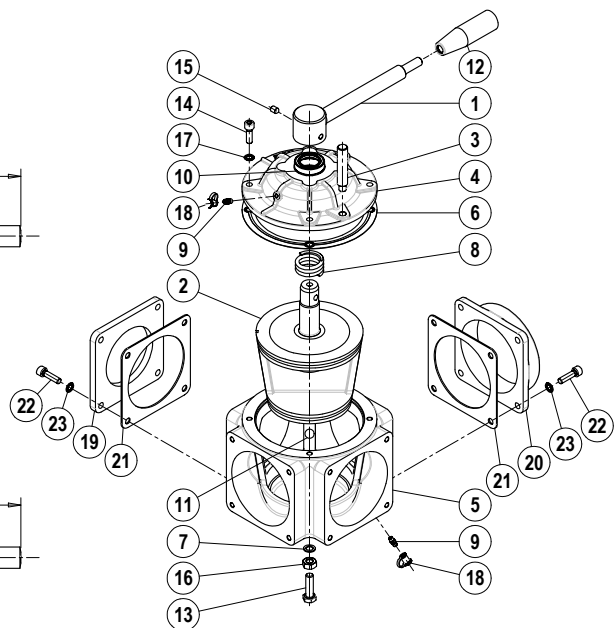
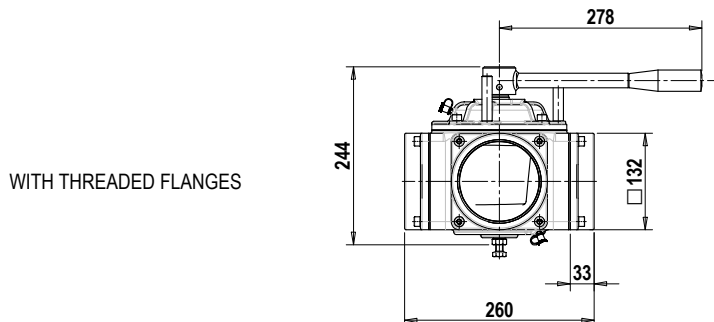
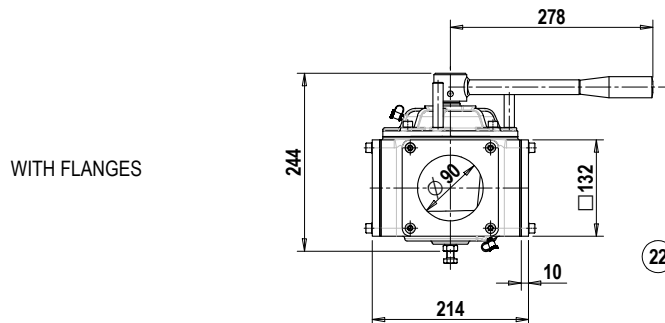
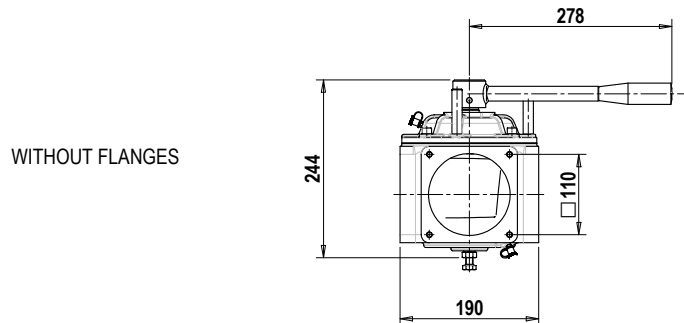
Pos.	Code	Description	Qty
1	1605500000	HANDLE	1
2	1608500000	2" 4-WAY INSIDE VALVE (CAST IRON)	1
	1608200400	2" 4-WAY INSIDE VALVE (BRONZE)	1
3	1623100000	2", 2" ½ 4-WAY VALVE COVER	1
4	1627500600	2" 4-WAY VALVE MANIFOLD (NPT)	1
	1627509100	2" 4-WAY VALVE MANIFOLD (GAS)	1
	1627500700	2" ½ 2" 4-WAY VALVE MANIFOLD (NPT)	1
	1627509200	2" ½ 2" 4-WAY VALVE MANIFOLD (GAS)	1
5	1680700200	GASKET COVER	1
6	1691000000	SPRING	1
7	4022200030	SEAL RING 41X27X10	1
8	4026102806	SCRE TE 8,8 M8X20 GALV.	5
9	4026351505	WASHER M8 GALV.	4
10	4026356004	WASHER 8X32	1

DESCRIPTION	CODE	DIAMETER	THREAD	MATERIAL
MANUAL 4-WAY VALVES WITHOUT FLANGES	1488106200	3"	-	Cast iron
	1488104000	3"	-	Bronze
MANUAL 4-WAY VALVES WITH CAST IRON FLANGES	1488101100	3"	-	Cast iron
	1488104100	3"	-	Bronze
MANUAL 4-WAY VALVES WITH THREADED FLANGES	1488100200	3"	NPT	Cast iron
	1488106800	3"	GAS	Cast iron
	1488105600	3"	NPT / GAS	Bronze



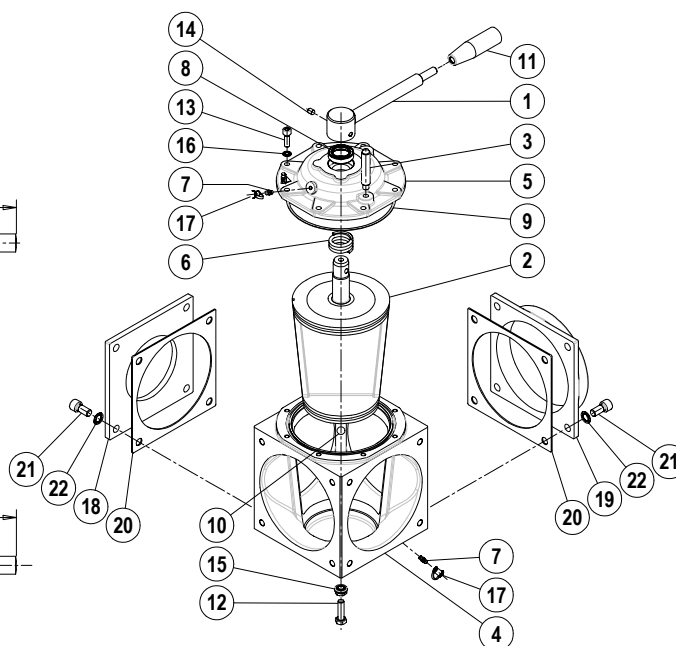
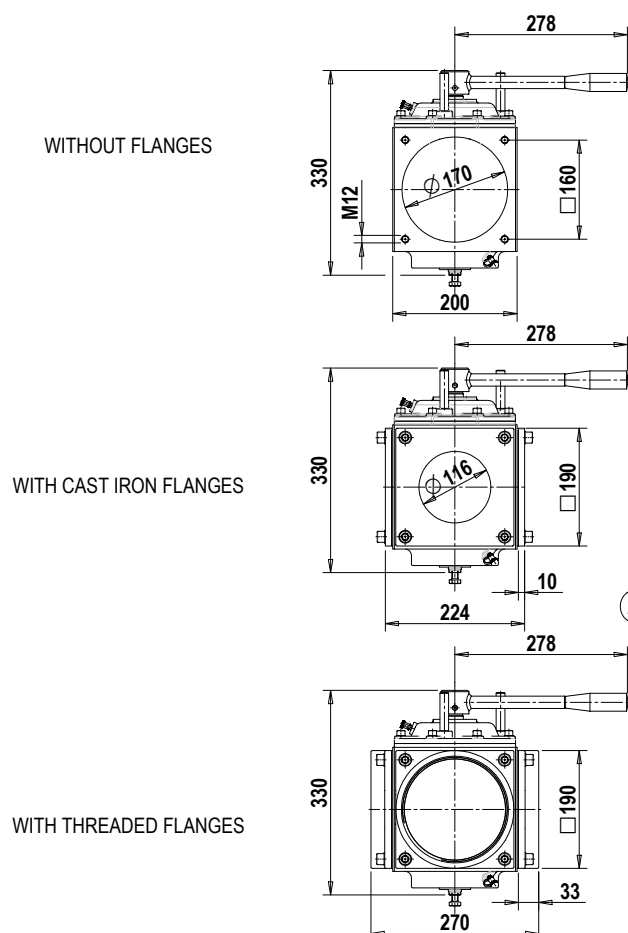
Pos.	Code	Description	Qty	Pos.	Code	Description	Qty
1	1505000100	HANDLE	1	15	4026136005	GRUB SCREW 12,9 M8X12 GALV.	2
2	1608500600	3" 4-WAY INSIDE VALVE (CAST IRON)	1	16	4026308005	NUT M8 GALV.	1
	1608200600	3" 4-WAY INSIDE VALVE (BRONZE)	1	17	4026351505	WASHER M8 GALV.	4
3	1622002300	PIN FOR HANDLE STOPPER	2	18	4029602700	GREASER PROTECTION	2
4	1623500200	3" 4-WAY COVER	1			4-WAY VALVE WITH FLANGES	
5	1627501000	3" 4-WAY MANIFOLD	1	19	1612004700	3" 4-WAY FLANGE	4
6	1680702300	3" 4-WAY GASKET	1	21	1680702100	3" 4-WAY FLANGE GASKET	4
7	1685100800	COPPER FLAT WASHER 8X14X1,5	1	22	4026121407	SCREW TCEI 8.8 M8X25 ZINC.	16
8	1691000200	SPRING	1	23	4026351505	WASHER M8 ZINC.	16
9	4022100100	GREASER M6X1	2			4-WAY VALVE WITH THREADED FLANGES	
10	4022200030	SEAL RING 41X27X10	1	20	1610502500	3" 4-WAY FLANGE NPT	4
11	4023200014	1/2" BALL	1		1610515000	3" 4-WAY FLANGE GAS	4
12	4025505008	BAKELITE GRIP FOR HANDLE	1	21	1680702100	3" 4-WAY FLANGE GASKET	4
13	4026102807	SCREW TE 8.8 M8X25 GALV.	1	22	4026121406	SCREW TCEI 8.8 M8X30 ZINC.	16
14	4026121405	SCREW TCEI 8.8 M8X20 GALV.	4	23	4026351505	WASHER M8 ZINC.	16

DESCRIPTION	CODE	DIAMETER	THREAD	MATERIAL
MANUAL 4-WAY VALVES WITHOUT FLANGES	1488102800	4"	-	Cast iron
	1488104400	4"	-	Bronze
MANUAL 4-WAY VALVES WITH CAST IRON FLANGES	1488103000	4"	-	Cast iron
	1488104500	4"	-	Bronze
MANUAL 4-WAY VALVES WITH THREADED FLANGES	1488103200	4"	NPT	Cast iron
	1488107000	4"	GAS	Cast iron
	1488105800	4"	NPT	Bronze
	1488107400	4"	GAS	Bronze



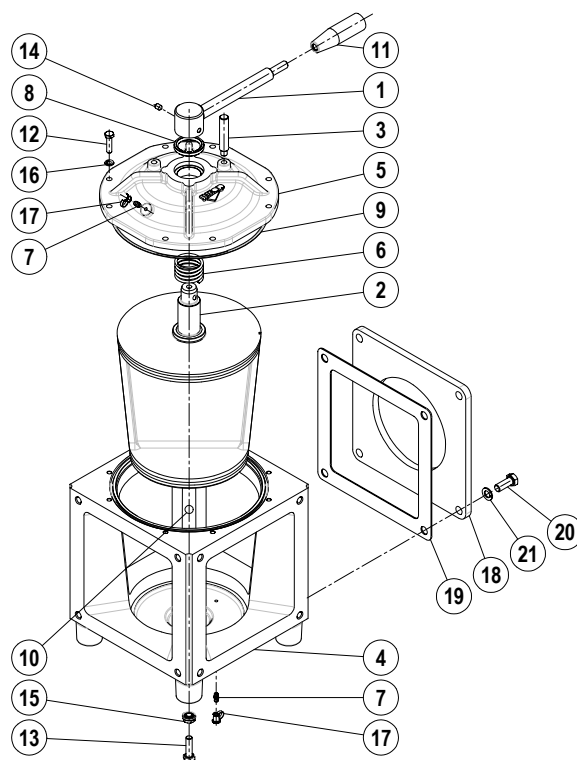
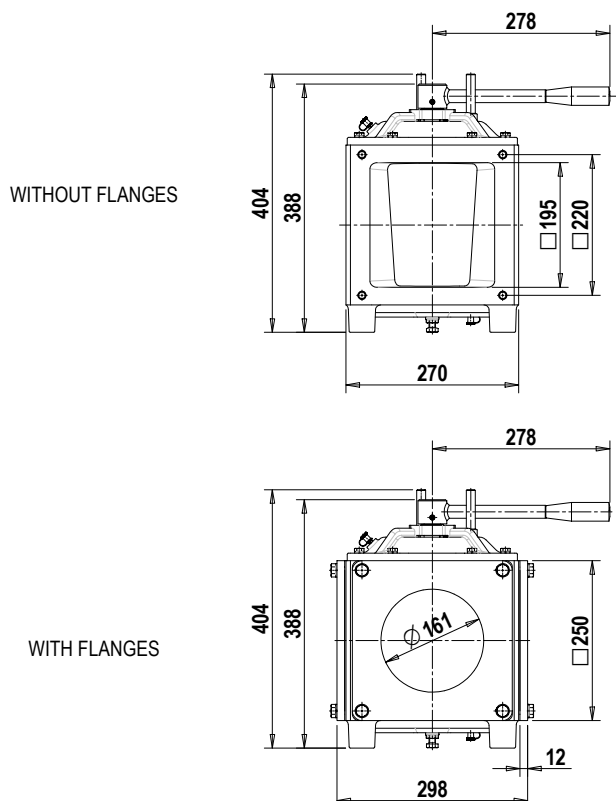
Pos.	Code	Description	Qty	Pos.	Code	Description	Qty
1	1505000100	HANDLE	1	15	4026136005	GRUB SCREW 12,9 M8X12 GALV.	2
2	1608502700	4" 4-WAY INSIDE VALVE (CAST IRON)	1	16	4026308006	NUT M10 GALV.	1
	1608200800	4" 4-WAY INSIDE VALVE (BRONZE)	1	17	4026351505	WASHER M8 GALV.	4
3	1622002300	PIN FOR HANDLE STOPPER	2	18	4029602700	GREASER PROTECTION	2
4	1623501000	4" 4-WAY COVER	1	4-WAY VALVE WITH FLANGES			
5	1627505700	4" 4-WAY MANIFOLD	1	19	1612001400	4" 4-WAY FLANGE	4
6	1680708100	4" 4-WAY GASKET	1	21	1680609100	4" 4-WAY GASKET	4
7	1685100100	COPPER FLAT WASHER 10X16X1,5	1	22	4026121406	SCREW TCEI 8.8 M8X30 GALV.	16
8	1691000200	SPRING	1	23	4026351505	WASHER M8 GALV.	16
9	4022100100	GREASER M6X1	2	4-WAY VALVE WITH THREADED FLANGES			
10	4022200030	SEAL RING 41X27X10	1	20	1610502500	4" 4-WAY FLANGE NPT	4
11	4023200014	1/2" BALL	1		1610515000	4" 4-WAY FLANGE GAS	4
12	4025505008	BAKELITE GRIP FOR HANDLE	1	21	1680702100	4" 4-WAY GASKET	4
13	4026102909	SCREW TE 8.8 M8X35 GALV.	1	22	4026121406	SCREW TCEI 8.8 M8X30 GALV.	16
14	4026121407	SCREW TCEI 8.8 M8X25 GALV.	4	23	4026351505	WASHER M8 GALV.	16

DESCRIPTION	CODE	DIAMETER	THREAD	MATERIAL
MANUAL 4-WAY VALVES WITHOUT FLANGES	1488102100	6"	-	Cast iron
	1488104800	6"	-	Brass
MANUAL 4-WAY VALVES WITH CAST IRON FLANGES	1488102300	6"	-	Cast iron
	1488104900	6"	-	Brass
MANUAL 4-WAY VALVES WITH THREADED FLANGES	1488102500	6"	NPT	Cast iron
	1488107200	6"	GAS	Cast iron
	1488106000	6"	NPT	Brass
	1488107600	6"	GAS	Brass



Pos.	Code	Description	Qty	Pos.	Code	Description	Qty
1	1505000100	HANDLE	1	15	4026331317	NUT WITH GASKET M10 GALV.	1
2	1608502400	6" 4-WAY INSIDE VALVE (CAST IRON)	1	16	4026351505	WASHER M8 GALV.	4
	1508200400	6" 4-WAY INSIDE VALVE (BRASS)	1	17	4029602700	GREASER PROTECTION	2
3	1622002300	PIN FOR HANDLE STOPPER	2				
4	16275021E0	6" 4-WAY MANIFOLD	1			4-WAY VALVE WITH FLANGES	
5	16405018E0	6" 4-WAY COVER	1	18	1612001300	6" 4-WAY FLANGE	4
6	1691000200	SPRING	1	20	1680609600	6" 4-WAY GASKET	4
7	4022100100	GREASER M6X1	2	21	4026121708	SCREW TCEI 8.8 M8X25 GALV.	16
8	4022200030	SEAL RING 41X27X10	1	22	4026351507	WASHER M12 GALV.	16
9	4022200355	O-RING 4650	1			4-WAY VALVE WITH THREADED FLANGES	
10	4023200014	1/2" BALL	1	19	1610503100	6" 4-WAY FLANGE NPT	4
11	4025505008	BAKELITE GRIP FOR HANDLE	1		1610515200	6" 4-WAY FLANGE GAS	4
12	4026102909	SCREW TE 8.8 M10X35 GALV.	1	20	1680609600	6" 4-WAY GASKET	4
13	4026121407	SCREW TCEI 8.8 M8X25 GALV.	8	21	4026121708	SCREW TCEI 8.8 M8X25 GALV.	16
14	4026136005	GRUB SCREW 12,9 M8X12 GALV.	2	22	4026351507	WASHER M12 GALV.	16

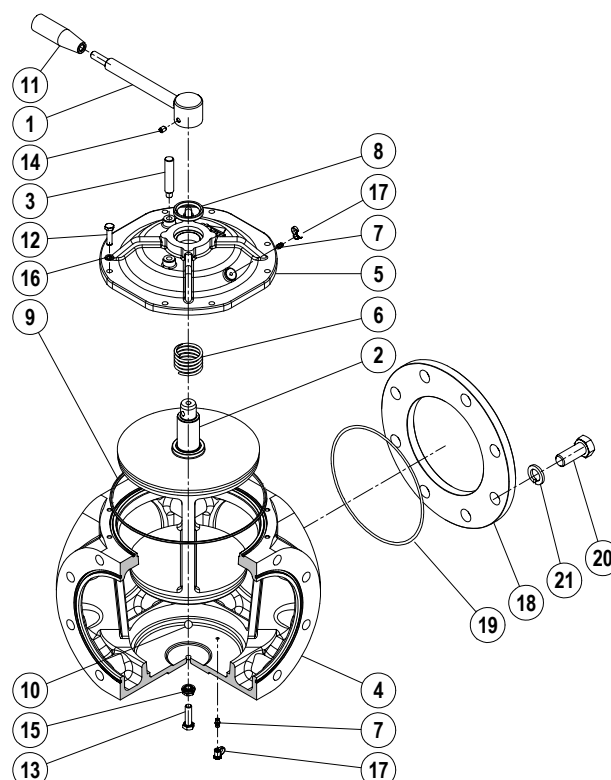
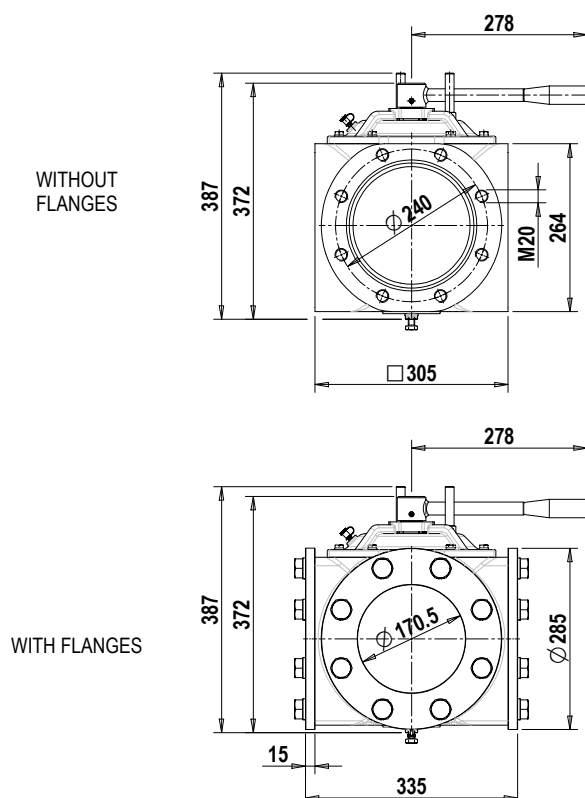
DESCRIPTION	CODE	DIAMETER	THREAD	MATERIAL
MANUAL 4-WAY VALVES WITHOUT FLANGES	1488100500	8"	-	Cast iron
	1488105200	8"	-	Brass
MANUAL 4-WAY VALVES WITH CAST IRON FLANGES	1488101500	8"	-	Cast iron
	1488105300	8"	-	Brass



Pos.	Code	Description	Qty
1	1505000100	HANDLE	1
2	1508500200	8" 4-WAY INSIDE VALVE (CAST IRON)	1
	1508200500	8" 4-WAY INSIDE VALVE (BRASS)	1
3	1622002300	PIN FOR HANDLE STOPPER	2
4	16275018E0	8" 4-WAY MANIFOLD	1
5	16401853E0	8" 4-WAY COVER	1
6	1691002500	SPRING	1
7	4022100100	GREASER M6X1	2
8	4022200009	SEAL RING 47X35X7	1
9	4022200315	O-RING 4950	1
10	4023200014	½" BALL	1
11	4025505008	BAKELITE GRIP FOR HANDLE	1

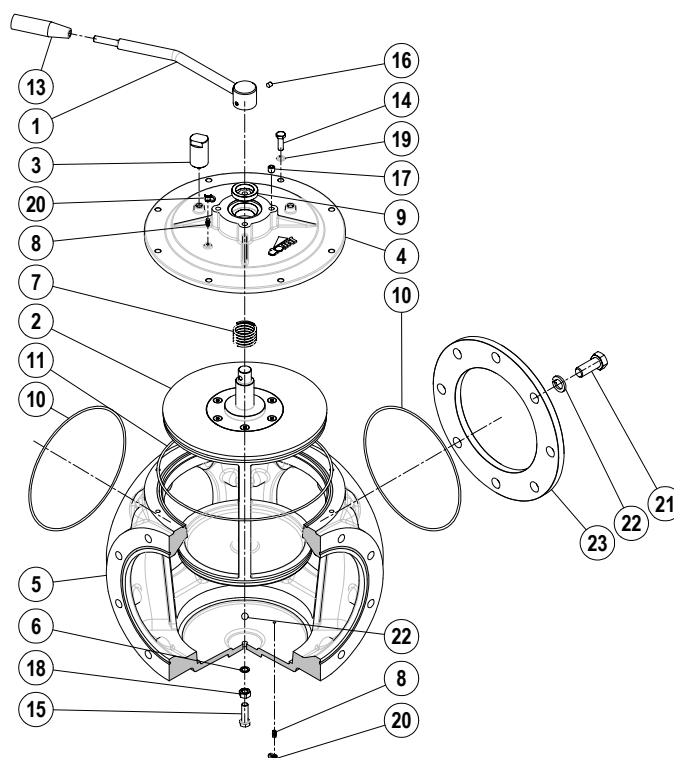
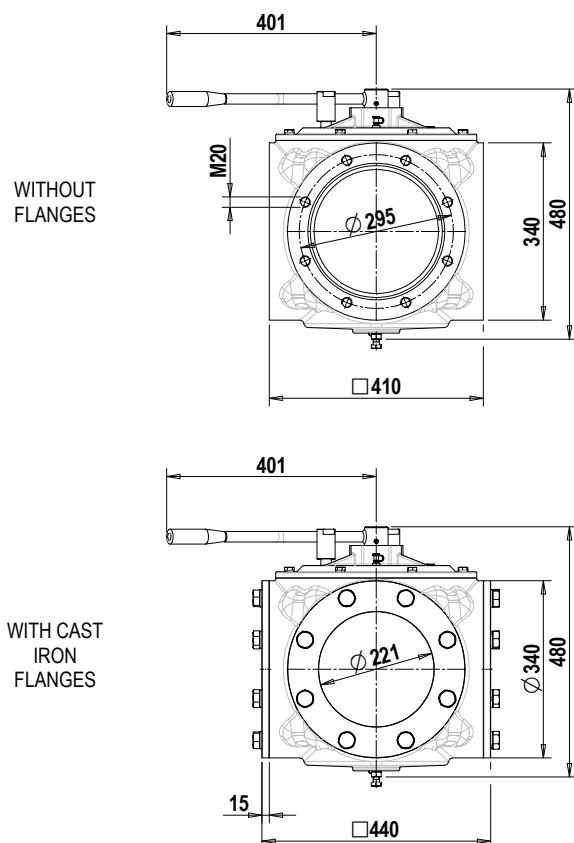
Pos.	Code	Description	Qty
12	4026102808	SCREW TE 8.8 M8X30 GALV.	8
13	4026102909	SCREW TE 8.8 M10X35 GALV.	1
14	4026136005	GRUB SCREW 12,9 M8X12 GALV.	2
15	4026331317	NUT WITH GASKET M10 GALV.	1
16	4026350706	WASHER GROWER M8 GALV.	8
17	4029602700	GREASER PROTECTION	2
4-WAY VALVE WITH FLANGES			
18	1612001400	8" 4-WAY FLANGE	4
19	1680605300	8" 4-WAY GASKET	4
20	4026103002	SCREW TE 8.8 M12X30 GALV.	16
21	4026350609	WASHERGROWER 12 GALV.	16

DESCRIPTION	CODE	DIAMETER	THREAD	MATERIAL
MANUAL 4-WAY VALVES WITHOUT FLANGES	14881015E0	DN 150	-	Cast iron
	14881016E0	DN 150	-	Brass
MANUAL 4-WAY VALVES WITH CAST IRON FLANGES	14881020E0	DN 150	-	Cast iron
	14881021E0	DN 150	-	Brass
MANUAL 4-WAY VALVES WITH STAINLESS STEEL FLANGES	14881022E0	DN 150	-	Cast iron
	14881023E0	DN 150	-	Brass



Pos.	Code	Description	Qty	Pos.	Code	Description	Qty
1	1505000100	HANDLE	1	13	4026102909	SCREW TE 8.8 M10X35 GALV.	1
2	1508500200	8" 4-WAY INSIDE VALVE (CAST IRON)	1	14	4026136005	GRUB SCREW 14.9 M8X12 GALV.	2
	1508200500	8" 4-WAY INSIDE VALVE (BRASS)	1	15	4026331317	NUT M10 GALV.	1
3	1622002300	PIN FOR HANDLE STOPPER	1	16	4026350706	WASHER GROWER 8 GALV.	8
4	16275017E0	DN150 4-WAY MANIFOLD	1	17	4029602700	GREASER PROTECTION	2
5	16401853E0	DN150 4-WAY COVER	1				
6	1691002500	SPRING	1			4-WAY VALVE WITH FLANGES	
7	4022100100	GREASER M6X1	2	18	16100279E0	CAST IRON FLANGE SP. 15	4
8	4022200009	SEAL 47X35X7	1		16100289E0	STAINLESS STEEL FLANGE SP. 15	4
9	4022200315	O-RING 4950	1	19	4022200308	O-RING 4775	4
10	4023200014	½" BALL	1	20	4026101813	SCREW TE 8.8 M20X50 GALV.	32
11	4025505008	BAKELITE GRIP FOR HANDLE	1	21	4026350713	WASHER GROWER 20 GALV.	32
12	4026102808	SCREW TE 8.8 M8X30 GALV.	8				

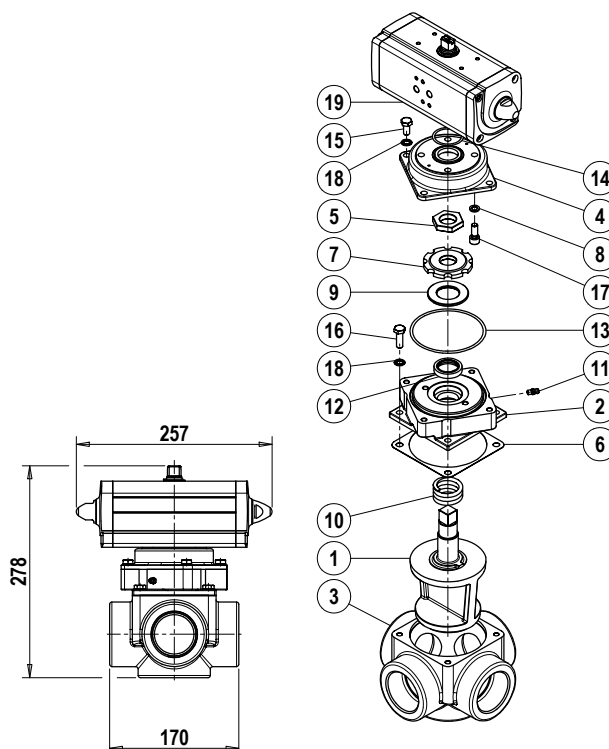
DESCRIPTION	CODE	DIAMETER	THREAD	MATERIAL
MANUAL 4-WAY VALVES WITHOUT FLANGES	14881006E0	DN 200	-	Brass
MANUAL 4-WAY VALVES WITH CAST IRON FLANGES	14881010E0	DN 200	-	Brass
MANUAL 4-WAY VALVES WITH STAINLESS STEEL FLANGES	14881008E0	DN 200	-	Brass



Pos.	Code	Description	Qty	Pos.	Code	Description	Qty
1	15050005E0	HANDLE	1	14	4026102908	SCREW TE 8.8 M10X30 GALV.	8
2	15086001E0	DN200 4-WAY INSIDE VALVE (BRASS)	1	15	4026103004	SCREW TE 8.8 M12X40 GALV.	1
3	16220071E0	PIN FOR HANDLE STOPPER	2	16	4026136005	GRUB SCREW 14.9 M8X12 GALV.	2
4	16235002E0	DN200 4-WAY COVER	1	17	4026157R00	GRUB SCREW M12X12 GALV.	4
5	16275012E0	DN200 4-WAY MANIFOLD	1	18	4026308007	NUT M12 ZINC.	1
6	16851002E0	COPPER FLAT WASHER 12X18X1,5	1	19	4026350708	WASHER GROWER 10 GALV.	8
7	1691002500	SPRING	1	20	4029602700	GREASER PROTECTION	2
8	4022100100	GREASER M6X1	2				
9	4022200015	SEAL 50X35X10	1			4-WAY VALVE WITH FLANGES	
10	4022200638	O-RING 41000	4	21	4026101813	SCREW TE 8.8 M20X50 GALV.	32
11	4022200643	O-RING 41300	1	22	4026350713	WASHER GROWER 20 GALV.	32
12	4023200014	½" BALL	1	23	4026713812	CAST IRON FLANGE SP. 15	4
13	4025505007	GRIP FOR HANDLE	1		4026713612	STAINLESS STEEL FLANGE SP. 14	4

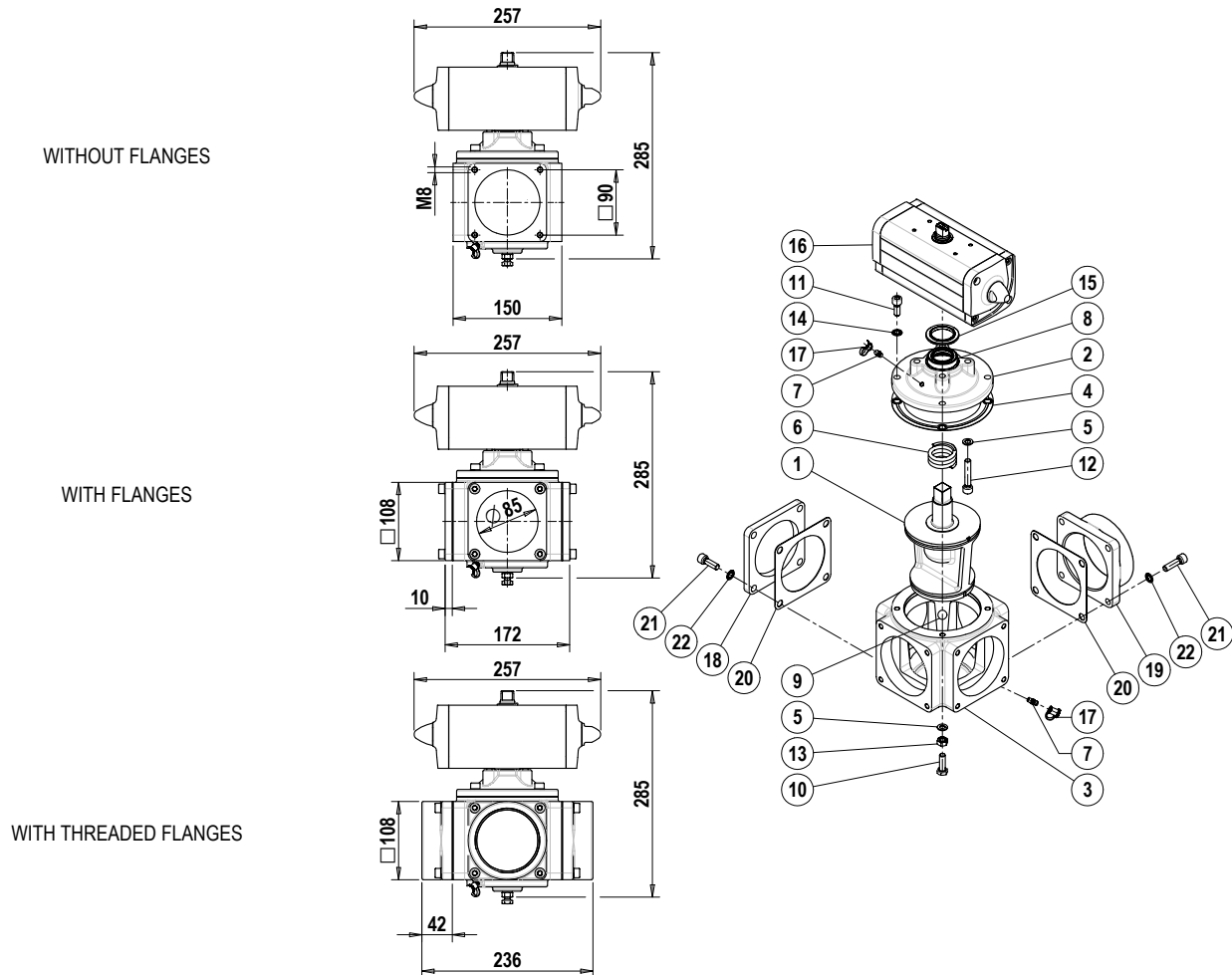
SPARE PART DATA SHEET – 4-WAY VALVES WITH PNEUMATIC ACTUATOR

DESCRIPTION	CODE	DIAMETER	THREAD	MATERIAL
4-WAY VALVES WITH PNEUMATIC ACTUATOR AND THREADED MANIFOLD	14881BERB0	2"	NPT	Cast iron
	1488106500	2"	GAS	Cast iron
	1488103800	2"	NPT	Bronze
	1488103400	2" ½	NPT	Cast iron
	1488106700	2" ½	GAS	Cast iron
	1488103900	2" ½	NPT	Bronze



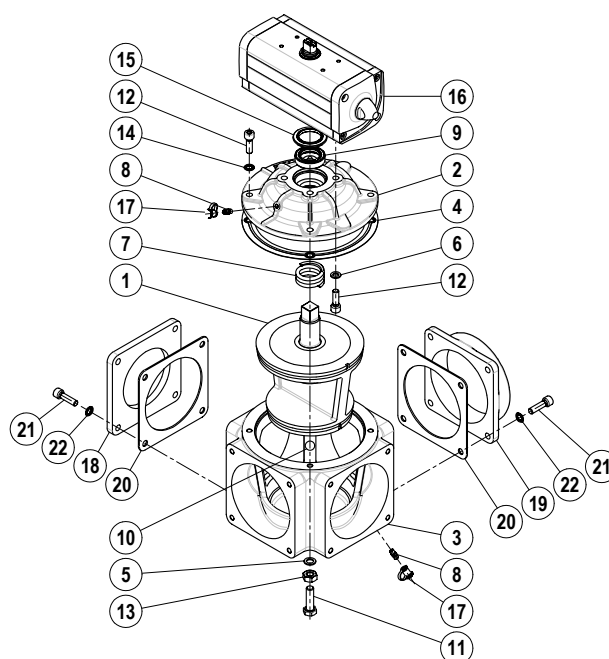
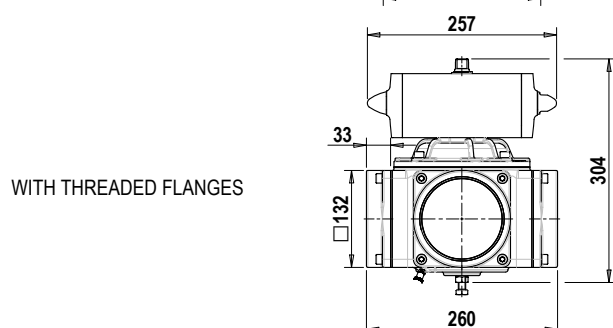
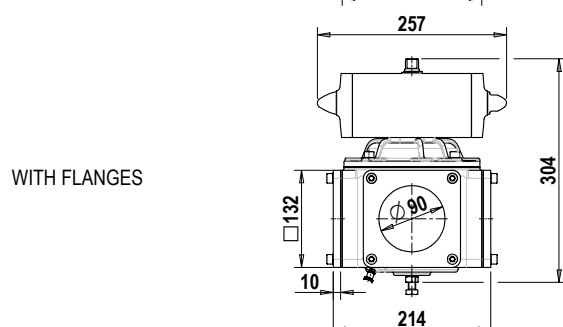
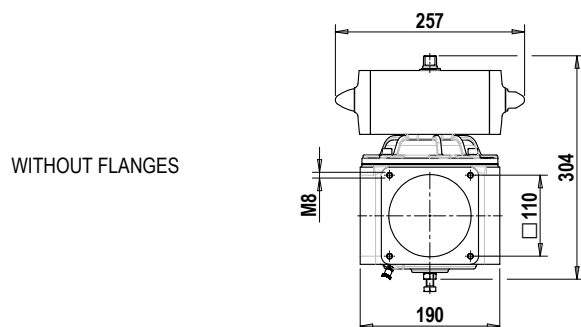
Pos.	Code	Description	Qty	Pos.	Code	Description	Qty
1	160857Z7B0	2" 4-WAY INSIDE VALVE (CAST IRON)	1	9	168529TFB0	SPACER	1
	1608200500	2" 4-WAY INSIDE VALVE (BRONZE)	1	10	1691000200	SPRING	1
2	161258B4B0	2", 2" ½ 4-WAY COVER	1	11	4022100100	GREASER M6X1	1
3	1627500600	2" 4-WAY MANIFOLD (NPT)	1	12	4022200005	SEAL RING 37X27X7	1
	1627509100	2" 4-WAY MANIFOLD (GAS)	1	13	4022200330	O-RING 3375	1
	1627500700	2" ½ 4-WAY MANIFOLD (NPT)	1	14	4022200331	O-RING 2137	1
	1627509200	2" ½ 4-WAY MANIFOLD (GAS)	1	15	4026102804	SCREW TE 8,8 M8X16	4
4	1640580QB0	2", 2" ½ 4-WAY COVER	1	16	4026102807	SCREW TE 8,8 M8X25	4
5	167007ZAB0	NUT	1	17	4026121405	SCREW TCEI 8,8 M8X20	4
6	1680700200	2", 2" ½ 4-WAY GASKET	1	18	4026351505	WASHER M8	8
7	168409PQB0	RING NUT	1	19	4027100477	PNEUMATIC ACTUATOR DAN120	1
8	16851001E0	COPPER FLAT WASHER 8X13X1,5	4				

DESCRIPTION	CODE	DIAMETER	THREAD	MATERIAL
4-WAY VALVES WITH PNEUMATIC ACTUATOR WITHOUT FLANGES	14881DARB0	3"	-	Cast iron
	1488104200	3"	-	Bronze
4-WAY VALVES WITH PNEUMATIC ACTUATOR WITH CAST IRON FLANGES	14881BNQB0	3"	-	Cast iron
	1488104300	3"	-	Bronze
4-WAY VALVES WITH PNEUMATIC ACTUATOR WITH THREADED FLANGES	14881BRPB0	3"	NPT	Cast iron
	1488106900	3"	GAS	Cast iron
	1488105700	3"	NPT / GAS	Bronze



Pos.	Code	Description	Qty	Pos.	Code	Description	Qty
1	16085BNPB0	3" 4-WAY INSIDE VALVE (CAST IRON)	1	15	4027100406	CENTERING RING	1
	1608200700	3" 4-WAY INSIDE VALVE (BRONZE)	1	16	4027100477	PNEUMATIC ACTUATOR DAN120	1
2	16235BNUB0	3" 4-WAY COVER	1	17	4029602700	GREASER PROTECTION	2
3	1627501000	3" 4-WAY MANIFOLD	1				
4	1680702300	3" 4-WAY GASKET	1			4-WAY VALVE WITH FLANGES	
5	1685100800	COPPER FLAT WASHER 8X14X1,5	1	18	1612004700	3" 4-WAY FLANGE	4
6	1691000200	SPRING	1	20	1680702100	3" 4-WAY GASKET	4
7	4022100100	GREASER M6X1	2	21	4026121407	SCREW TCEI 8.8 M8X25 GALV.	16
8	4022200030	SEAL RING 41X27X10	1	22	4026351505	WASHER M8 GALV.	16
9	4023200014	1/2" BALL	1			4-WAY VALVE WITH THREADED FLANGES	
10	4026102807	SCREW TE 8.8 M8X25 GALV.	1	19	1610502500	3" 4-WAY FLANGE NPT	4
11	4026121405	SCREW TCEI 8.8 M8X20 GALV.	4		1610515000	3" 4-WAY FLANGE GAS	4
12	4026121410	SCREW TCEI 8.8 M8X45 GALV.	4	20	1680702100	3" 4-WAY GASKET	4
13	4026308005	NUT M8 ESAG. GALV.	1	21	4026121406	SCREW TCEI 8.8 M8X25 GALV.	16
14	4026351505	WASHER M8 ZINC.	4	22	4026351505	WASHER M8 GALV.	16

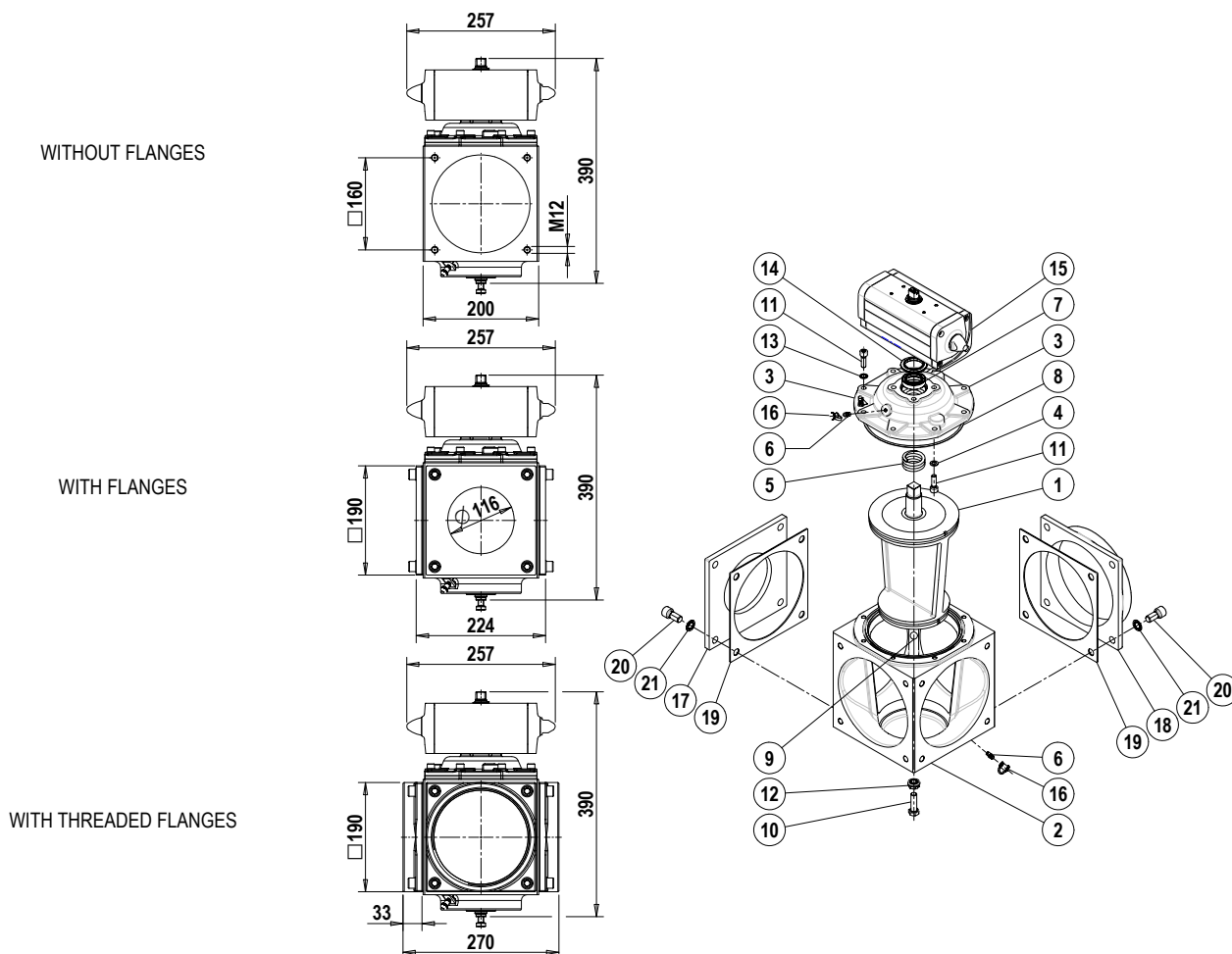
DESCRIPTION	CODE	DIAMETER	THREAD	MATERIAL
4-WAY VALVES WITH PNEUMATIC ACTUATOR WITHOUT FLANGES	1488102900	4"	-	Cast iron
	1488104600	4"	-	Bronze
4-WAY VALVES WITH PNEUMATIC ACTUATOR WITH CAST IRON FLANGES	1488103100	4"	-	Cast iron
	1488104700	4"	-	Bronze
4-WAY VALVES WITH PNEUMATIC ACTUATOR WITH THREADED FLANGES	1488103300	4"	NPT	Cast iron
	1488107100	4"	GAS	Cast iron
	1488105900	4"	NPT	Bronze
	1488107500	4"	GAS	Bronze



Pos.	Code	Description	Qty
1	1608502800	4" 4-WAY INSIDE VALVE (CAST IRON)	1
	1608200900	4" 4-WAY INSIDE VALVE (BRONZE)	1
2	1623501100	4" 4-WAY COVER	1
3	1627505700	4" 4-WAY MANIFOLD	1
4	1680708100	4" 4-WAY GASKET	1
5	1685100100	COPPER FLAT WASHER 10X16X1,5	1
6	1685100800	COPPER FLAT WASHER 8X14X1,5	4
7	1691000200	SPRING	1
8	4022100100	GREASER M6X1	2
9	4022200030	SEAL RING 41X27X10	1
10	4023200014	1/2" BALL	1
11	4026102909	SCREW TE 8.8 M10X35 GALV.	1
12	4026121407	SCREW TCEI 8.8 M8X25 GALV.	8
13	4026308006	NUT M10 GALV.	1
14	4026351505	WASHER M8 GALV.	4

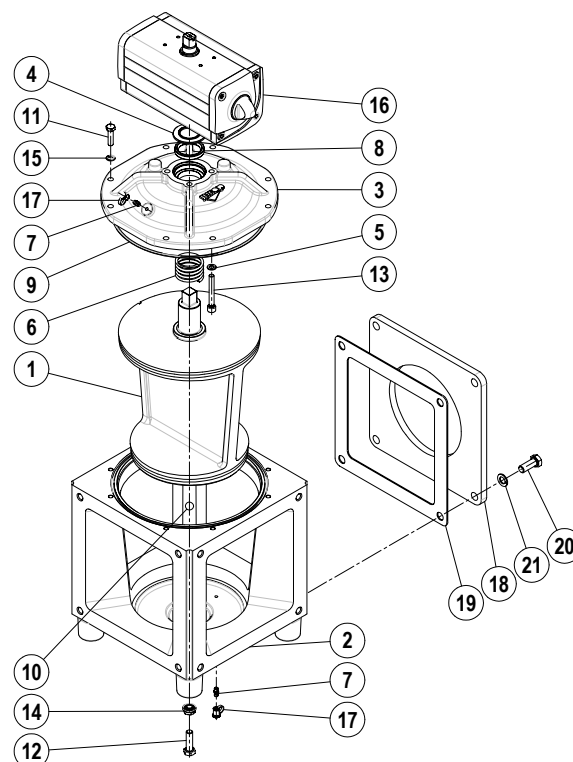
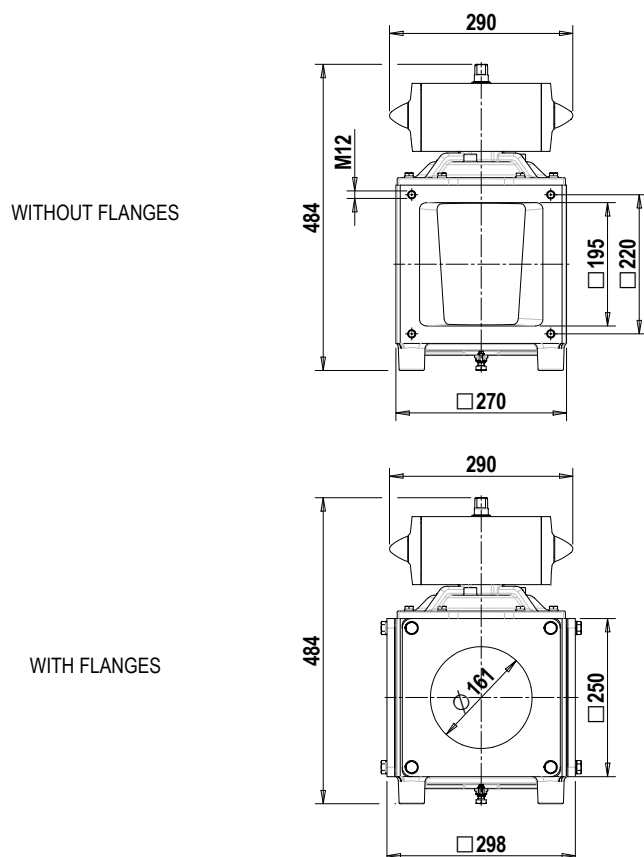
Pos.	Code	Description	Qty
15	4027100406	CENTERING RING	1
16	4027100477	PNEUMATIC ACTUATOR DAN120	1
17	4029602700	GREASER PROTECTION	2
4-WAY VALVE WITH FLANGES			
18	1612001400	4" 4-WAY FLANGE	4
20	1680609100	4" 4-WAY GASKET	4
21	4026121406	SCREW TCEI 8.8 M8X30 GALV.	16
22	4026351505	WASHER M8 GALV.	16
4-WAY VALVE WITH THREADED FLANGES			
19	1610503000	4" 4-WAY FLANGE NPT	4
	1610515100	4" 4-WAY FLANGE GAS	4
20	1680609100	4" 4-WAY GASKET	4
21	4026121406	SCREW TCEI 8.8 M8X30 GALV.	16
22	4026351505	WASHER M8 GALV.	16

DESCRIPTION	CODE	DIAMETER	THREAD	MATERIAL
4-WAY VALVES WITH PNEUMATIC ACTUATOR WITHOUT FLANGES	1488102200	6"	-	Cast iron
	1488105000	6"	-	Brass
4-WAY VALVES WITH PNEUMATIC ACTUATOR WITH CAST IRON FLANGES	1488102400	6"	-	Cast iron
	1488105100	6"	-	Brass
4-WAY VALVES WITH PNEUMATIC ACTUATOR WITH THREADED FLANGES	1488102600	6"	NPT	Cast iron
	1488107300	6"	GAS	Cast iron
	1488106100	6"	NPT	Brass
	1488107700	6"	GAS	Brass



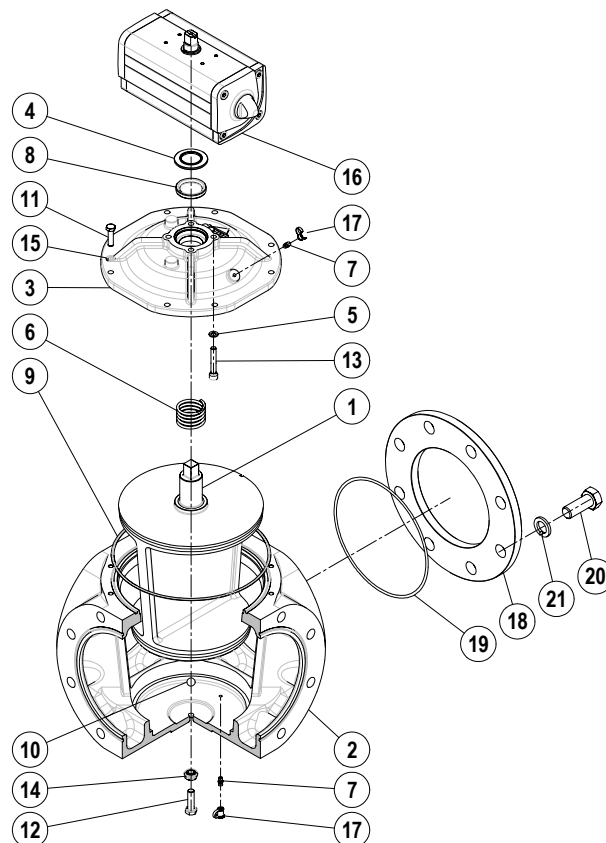
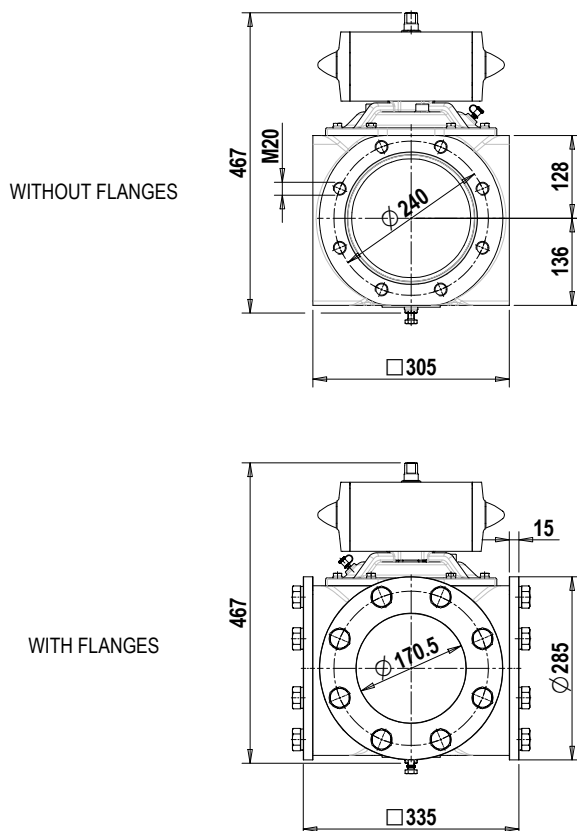
Pos.	Code	Description	Qty	Pos.	Code	Description	Qty
1	1608502300	6" 4-WAY INSIDE VALVE (CAST IRON)	1	14	4027100406	CENTERING RING	1
	1508200100	6" 4-WAY INSIDE VALVE (BRASS)	1	15	4027100477	PNEUMATIC ACTUATOR DAN120	1
2	16275021E0	6" 4-WAY MANIFOLD	1	16	4029602700	GREASER PROTECTION	2
3	16405019E0	6" 4-WAY COVER	1			4-WAY VALVE WITH FLANGES	
4	1685100800	COPPER FLAT WASHER 8X14X1,5	4	17	1612001300	6" 4-WAY FLANGE	4
5	1691000200	SPRING	1	19	1680609600	6" 4-WAY GASKET	4
6	4022100100	GREASER M6X1	2	20	4026121708	SCREW TCEI 8.8 M8X25 GALV.	16
7	4022200030	SEAL RING 41X27X10	1	21	4026351507	WASHER M12 GALV.	16
8	4022200355	O-RING 4650	1			4-WAY VALVE WITH THREADED FLANGES	
9	4023200014	1/2" BALL	1	18	1610503100	6" 4-WAY FLANGE NPT	4
10	4026102909	SCREW TE 8.8 M10X35 GALV.	1		1610515200	6" 4-WAY FLANGE GAS	4
11	4026121407	SCREW TCEI 8.8 M8X25 GALV.	12	19	1680609600	6" 4-WAY GASKET	4
12	4026331317	NUT WITH GASKET M10 GALV.	1	20	4026121708	SCREW TCEI 8.8 M8X25 GALV.	16
13	4026351505	WASHER M8 GALV.	8	21	4026351507	WASHER M12 GALV.	16

DESCRIPTION	CODE	DIAMETER	THREAD	MATERIAL
4-WAY VALVES WITH PNEUMATIC ACTUATOR WITHOUT FLANGES	14881BWPB0	8"	-	Cast iron
	1488105400	8"	-	Brass
4-WAY VALVES WITH PNEUMATIC ACTUATOR WITH CAST IRON FLANGES	14881BXBB0	8"	-	Cast iron
	1488105500	8"	-	Brass



Pos.	Code	Description	Qty	Pos.	Code	Description	Qty
1	15085BWQB0	8" 4-WAY INSIDE VALVE (CAST IRON)	1	12	4026102909	SCREW TE 8.8 M10X35 GALV.	1
	1508200200	8" 4-WAY INSIDE VALVE (BRASS)	1	13	4026121410	SCREW TCEI 8.8 M8X45 GALV.	4
2	16275018E0	8" 4-WAY MANIFOLD	1	14	4026331317	NUT WITH GASKET M10 GALV.	1
3	16401854E0	8" 4-WAY COVER	1	15	4026350706	WASHER GROWER M8 GALV.	8
4	16840349E0	CENTERING RING	1	16	4027100405	PNEUMATIC ACTUATOR DAN180	1
5	1685100800	COPPER FLAT WASHER 8X14X1,5	4	17	4029602700	GREASER PROTECTION	2
6	1691002500	SPRING	1				
7	4022100100	GREASER M6X1	2			4-WAY VALVE WITH FLANGES	
8	4022200009	SEAL RING 47X35X7	1	18	1612001400	8" 4-WAY FLANGE	4
9	4022200315	O-RING 4950	1	19	1680605300	8" 4-WAY GASKET	4
10	4023200014	½" BALL	1	20	4026103002	SCREW TE 8.8 M12X30 GALV.	16
11	4026102808	SCREW TE 8.8 M8X30 GALV.	8	21	4026350609	WASHER GROWER 12 GALV.	16

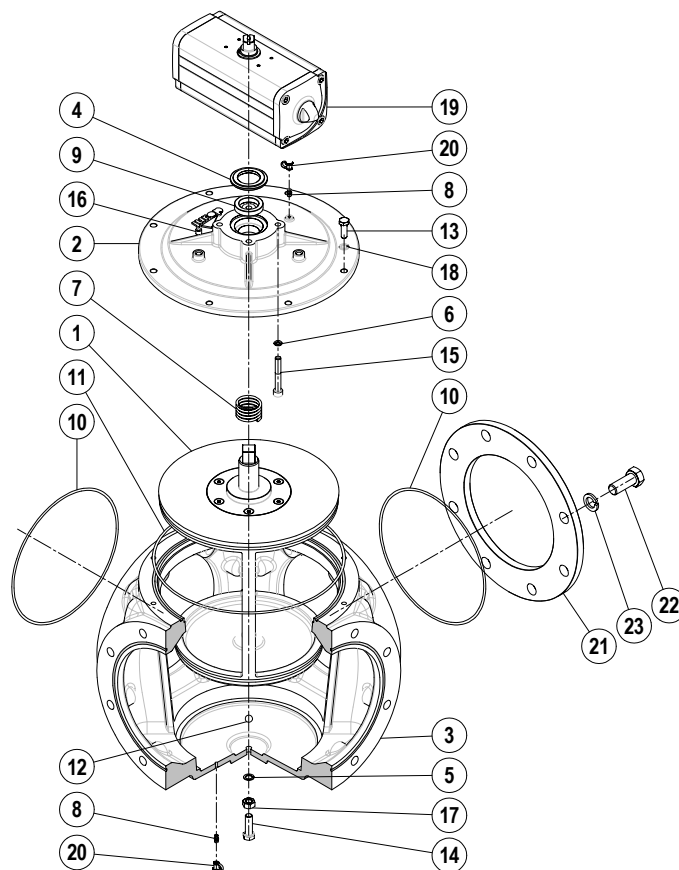
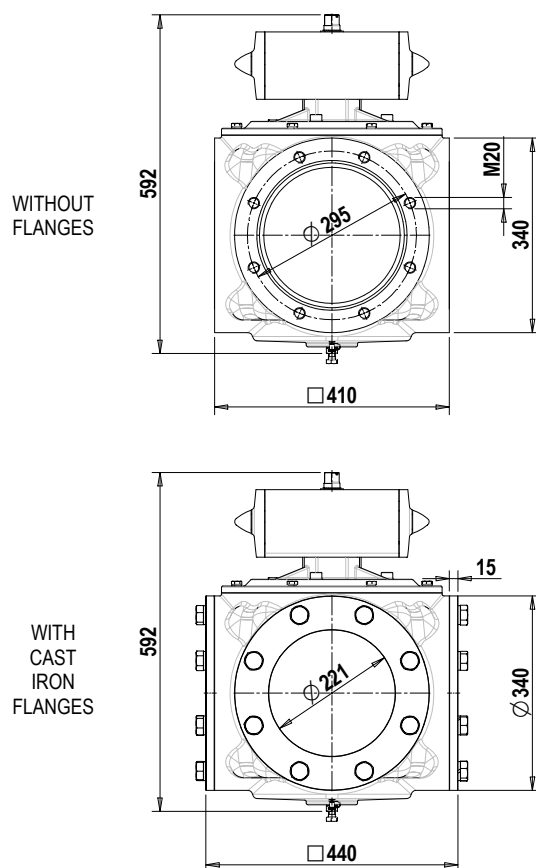
DESCRIPTION	CODE	DIAMETER	THREAD	MATERIAL
4-WAY VALVES WITH PNEUMATIC ACTUATOR WITHOUT FLANGES	14881013E0	DN 150	-	Cast iron
	14881014E0	DN 150	-	Brass
4-WAY VALVES WITH PNEUMATIC ACTUATOR WITH CAST IRON FLANGES	14881024E0	DN 150	-	Cast iron
	14881025E0	DN 150	-	Brass
4-WAY VALVES WITH PNEUMATIC ACTUATOR WITH STAINLESS STEEL FLANGES	14881026E0	DN 150	-	Cast iron
	14881027E0	DN 150	-	Brass



Pos.	Code	Description	Qty
1	15085BWQB0	8" 4-WAY INSIDE VALVE (CAST IRON)	1
	1508200200	8" 4-WAY INSIDE VALVE (BRASS)	1
2	16275017E0	DN150 4-WAY MANIFOLD	1
3	16401854E0	DN150 4-WAY COVER	1
4	16840349E0	CENTERING RING	1
5	1685100800	COPPER FLAT WASHER 8X14X1,5	4
6	1691002500	SPRING	1
7	4022100100	GREASER M6X1	2
8	4022200009	SEAL RING 47X35X7	1
9	4022200315	O-RING 4950	1
10	4023200014	½" BALL	1
11	4026102808	SCREW TE 8.8 M8X30 GALV.	8
12	4026102909	SCREW TE 8.8 M10X35 GALV.	1

Pos.	Code	Description	Qty
13	4026121410	SCREW TCEI 8.8 M8X45 GALV.	4
14	4026331317	NUT M10 GALV.	1
15	4026350706	WASHER GROWER 8 GALV.	8
16	4027100405	PNEUMATIC ACTUATOR DAN180	1
17	4029602700	GREASER PROTECTION	2
4-WAY VALVE WITH FLANGES			
18	16100279E0	CAST IRON FLANGE SP. 15	4
	16100289E0	STAINLESS STEEL FLANGE SP. 15	4
19	4022200308	O-RING 4775	4
20	4026101813	SCREW TE 8.8 M20X50 GALV.	32
21	4026350713	WASHER GROWER 20 GALV.	32

DESCRIPTION	CODE	DIAMETER	THREAD	MATERIAL
4-WAY VALVES WITH PNEUMATIC ACTUATOR WITHOUT FLANGES	14881005E0	DN 200	-	Brass
4-WAY VALVES WITH PNEUMATIC ACTUATOR WITH CAST IRON FLANGES	14881009E0	DN 200	-	Brass
4-WAY VALVES WITH PNEUMATIC ACTUATOR WITH STAINLESS STEEL FLANGES	14881007E0	DN 200	-	Brass



Pos.	Code	Description	Qty	Pos.	Code	Description	Qty
1	15082001E0	DN200 4-WAY INSIDE VALVE (BRASS)	1	14	4026103004	SCREW TE 8.8 M12X40 GALV.	1
2	16235002E0	DN200 4-WAY COVER	1	15	4026121816	SCREW TCEI 8.8 M10X70 GALV.	4
3	16275012E0	DN200 4-WAY MANIFOLD	1	16	4026135221	GRUB SCREW 14.9 M10X1X10	2
4	16840119E0	CENTERING RING	1	17	4026308007	NUT M12 GALV.	1
5	16851002E0	COPPER FLAT WASHER 12X18X1,5	1	18	4026350708	WASHER GROWER 10 ZINC.	8
6	1685100800	COPPER FLAT WASHER 8X14X1,5	4	19	4027100418	PNEUMATIC ACTUATOR DAN360	1
7	1691002500	SPRING	1	20	4029602700	GREASER PROTECTION	2
8	4022100100	GREASER M6X1	2				
9	4022200015	SEAL RING 50X35X10	1			4-WAY VALVE WITH FLANGES	
10	4022200638	O-RING 41000	4	21	4026101813	SCREW TE 8.8 M20X50 GALV.	32
11	4022200643	O-RING 41300	1	22	4026350713	WASHER GROWER 20 GALV.	32
12	4023200014	½" BALL	1	23	4026713812	CAST IRON FLANGE SP. 15	4
13	4026102908	SCREW TE 8.8 M10X30 GALV.	8		4026713612	STAINLESS STEEL FLANGE SP. 14	4

