

OMEGA Compact

Standard-series DN65-DN800

Application

The OMEGA Compact is a solid 3-way rotary control valve that provides simple, accurate and reliable flow regulation for both diverting and mixing applications in marine, industrial processes and district heating.

The OMEGA Compact valves are designed for use in Lubricating Oil Cooling, Cooling Water Systems or other systems with large water or lubricating oil flow.

The valve is designed with energy efficiency in focus where the high KV values will provide market leading energy efficiency in any application.

The compact design allows you to fit the valves in narrow spaces and withstands high vibrations.

The valves are equipped with electric or pneumatic actuators with handwheels for manual operation in case of power failure.

Available in sizes from DN65 to DN800 with flange connections according to EN 1092-2, ANSI Class 150, JIS B 2210 5K or JIS B 2210 10K.



Benefits

Design

- 10-45% lower weight than other existing 3-way valves on the market
- Simple design and easy to maintain
- Flexible design, common port C, which can be easily changed on site
- Low leakage rate due to small tolerance between the slide and the body
- Simple design with a very reliable control

Installation

- Flexible choice of port placement
- Can be easily installed where space is limited
- Can be installed in all directions

Features

- Sizes from DN65 to DN800
- Delivered with 3.1 certificate as an option. Other certificates on request.
- Pressure test acc. to EN12266
- Differential pressure range from 0.02 bar to 25 bar

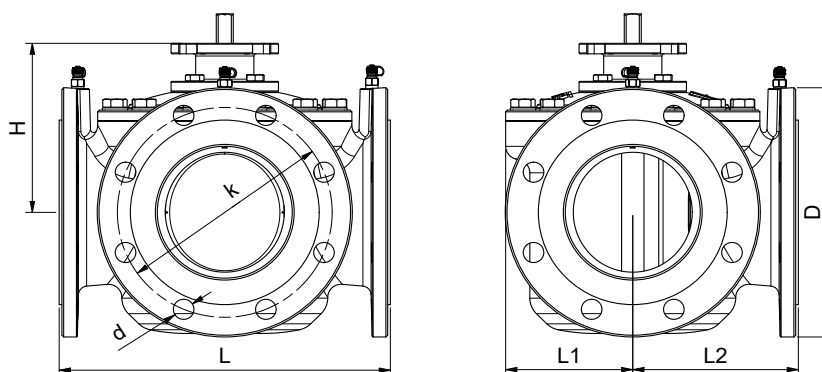
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OMEGA Compact, flanged

Technical Data

Valve housing:	EN-GJS-400-18LT
Rotating slide:	EN-GJS-400-18LT
Fasteners:	Stainless steel
Pressure class std.:	PN16 (DN65 - DN300) PN10 (DN350 - DN800)
On request:	PN25 (DN65 - DN125)
Temperature:	-20°C to 100°C Optional up to 200°C
Flow range:	Kvs 115 to Kvs 9050
Needles for DP measurement:	Max diameter, $\varnothing 3.2$ mm Length, 25 - 40 mm
Leakage rate	Max. 0.5 % of Kvs
Flange compliance:	EN 1092-2
Option drilled acc. to:	ANSI Class 150, JIS B 2210 5K, JIS B 2210 10K
Actuator connection:	Flange acc. to ISO 5211
Surface treatment:	Anticorrosive synthetic resin 80 μ m – 120 μ m
On request:	Other surface treatments



PLEASE NOTE!

The closed pipe system shall be properly ventilated to avoid risk of air pockets. The water must be free from dirt and debris. Glycolic mixtures up to 50% are applicable (both ethylene and propylene). Chemicals and inhibitors must be compatible with the valve materials. Recommendation: Water treatment to VDI 2035

Product Programme - specifications

Dim.	L [mm]	L1 [mm]	L2 [mm]	H [mm]	Weight [kg]	Kvs C-Right/C-left [m ³ /h] Mix/Divert	Kvs C-middle [m ³ /h] Mix/Divert
DN65	260	75	130	145	25	115/221	115/221
DN80	280	80	140	150	27	163/287	163/287
DN100	300	110	150	168	40	241/389	241/343
DN125	340	135	170	188	55	394/535	370/497
DN150	370	145	185	195	63	575/807	575/807
DN200	450	190	225	246	99	1009/1475	929/1475
DN250	520	210	260	283	145	1579/2475	1441/2170
DN300	600	235	300	315	195	2300/3477	2223/3453
DN350	680	260	340	347	265	3100/4810	2973/4629
DN400	760	300	380	392	335	4075/5977	3789/5904
DN450	810	330	405	402	410	4675/6050	4675/6050
DN500	885	360	443	435	535	5475/7709	5345/7709
DN550	885	360	443	435	535	5250/6750	5250/6750
DN600	980	410	490	480	795	5750/7450	5750/7450
DN650	1050	460	538	500	995	6950/8050	6950/8050
DN700	1050	490	540	529	995	6950/8050	6950/8050
DN800	1210	550	595	660	1275	7250/9050	7250/9050

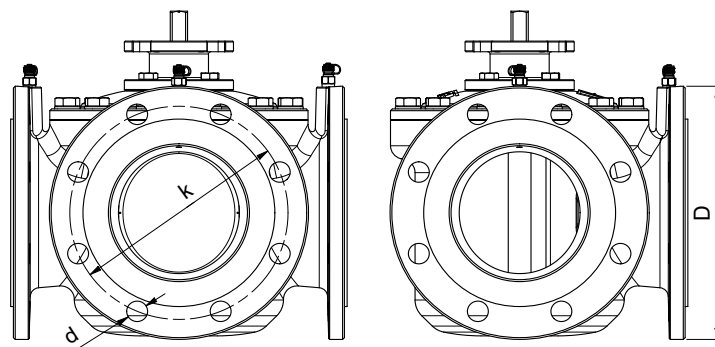
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Special flanges

ANSI and JIS flange standards can be delivered on request according to table below.

Please contact Frese Marine Sales organisation

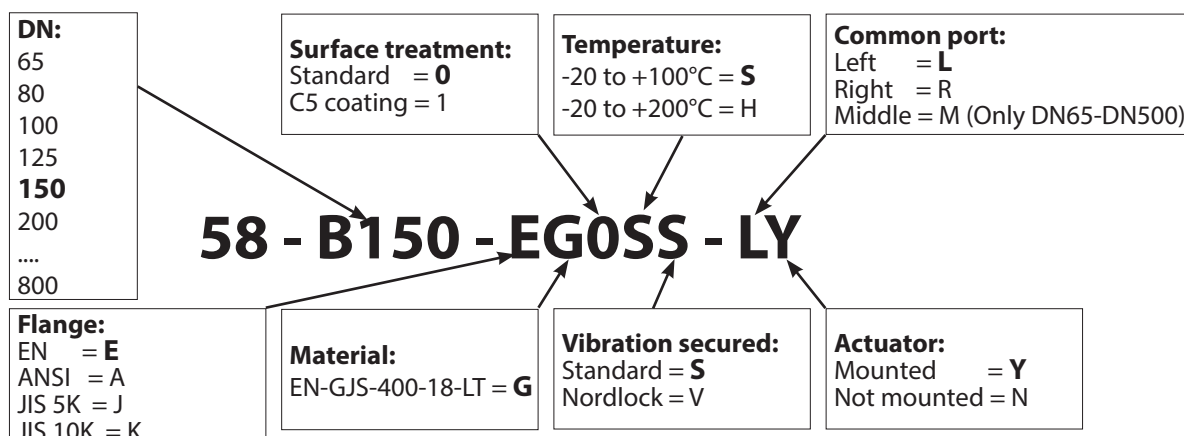


Specification of flange standards

Dim.	EN 1092-2			ANSI Class 150			JIS B 2210 5K			JIS B 2210 10K		
	D [mm]	k dia. [mm]	d [mm] x number	D [mm]	k dia. [mm]	d [mm] x number	D [mm]	k dia. [mm]	d [mm] x number	D [mm]	k dia. [mm]	d [mm] x number
DN65	185	145	19 x 4	180	140	19 x 4	155	130	15 x 4	175	140	19 x 4
DN80	200	160	19 x 8	190	152	19 x 4	180	145	19 x 4	185	150	19 x 8
DN100	220	180	19 x 8	230	190.9	19 x 8	200	165	19 x 8	210	175	19 x 8
DN125	250	210	19 x 8	255	216	22 x 8	235	200	19 x 8	250	210	23 x 8
DN150	285	240	23 x 8	280	241	22 x 8	265	230	19 x 8	280	240	23 x 8
DN200	340	295	23 x 12	343	299	23 x 8	320	280	23 x 8	330	290	23 x 12
DN250	400	355	28 x 12	407	362	26 x 12	385	345	23 x 12	400	355	25 x 12
DN300	455	410	28 x 12	483	432	26 x 12	430	390	23 x 12	445	400	25 x 16
DN350	505	460	23 x 16	534	477	29 x 12	480	435	25 x 12	490	445	25 x 16
DN400	565	515	28 x 16	597	540	29 x 16	540	495	25 x 16	560	510	27 x 16
DN450	615	565	28 x 20	635	578	32 x 16	605	555	25 x 16	620	565	27 x 20
DN500	670	620	28 x 20	699	635	32 x 20	655	605	25 x 20	675	620	27 x 20
DN550	NA	NA	NA	NA	NA	NA	720	665	27 x 20	745	680	33 x 20
DN600	780	725	31 x 20	813	750	35 x 20	770	715	25 x 20	795	730	33 x 24
DN650	NA	NA	NA	NA	NA	NA	825	770	27 x 24	845	780	33 x 24
DN700	895	840	31 x 24	NA	NA	NA	875	820	27 x 24	905	840	33 x 24
DN800	1015	950	34 x 24	NA	NA	NA	995	930	33 x 24	1020	950	33 x 28

Part numbers

OMEGA Compact part numbers are generated from the following specifications:



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Function

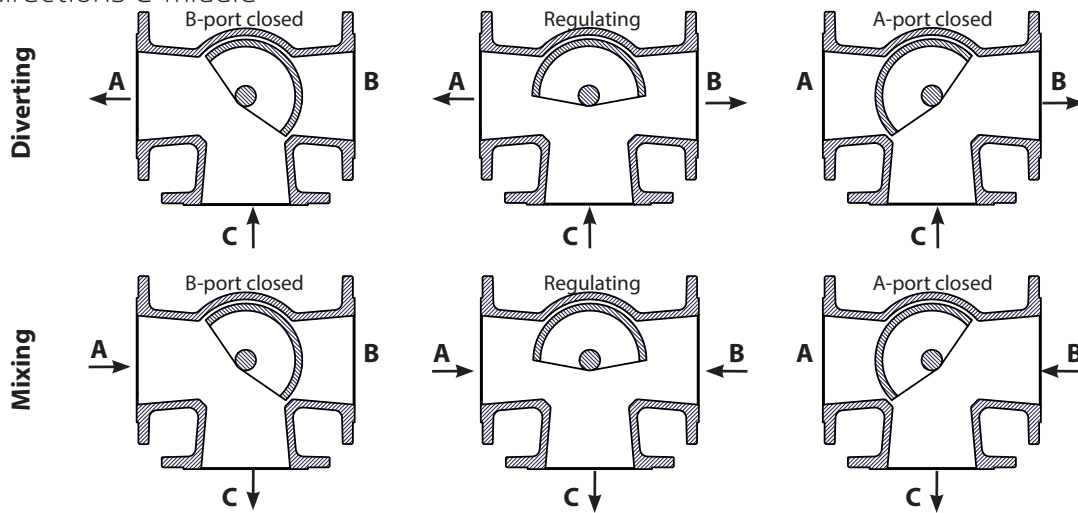
The spindle of the strongly constructed slide is connected solidly with the actuator.

The quarter turn actuator moves the slide between port A and B. When the slide is closing port A, connection B-C is fully open and connection A-C is fully closed. When slide is closing port B, connection B-C is fully closed and connection A-C is fully

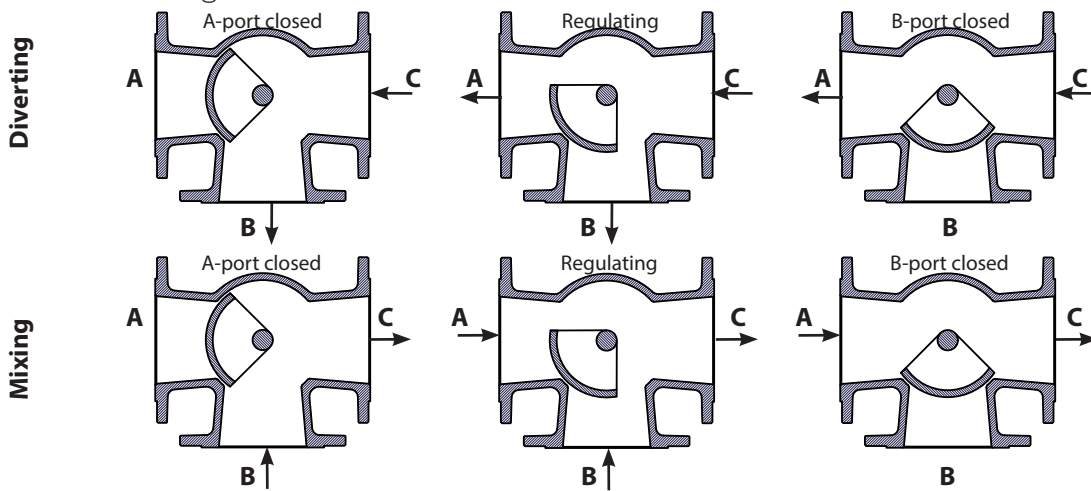
open. When the slide is between port A and B, the position of the slide determines the volume flow rates of A-C or B-C.

In the valve type C-Right or C-Left the slide is turning 90° between perpendicular ports A and B and in the valve type C-middle slide is turning 90° between parallel ports A and B.

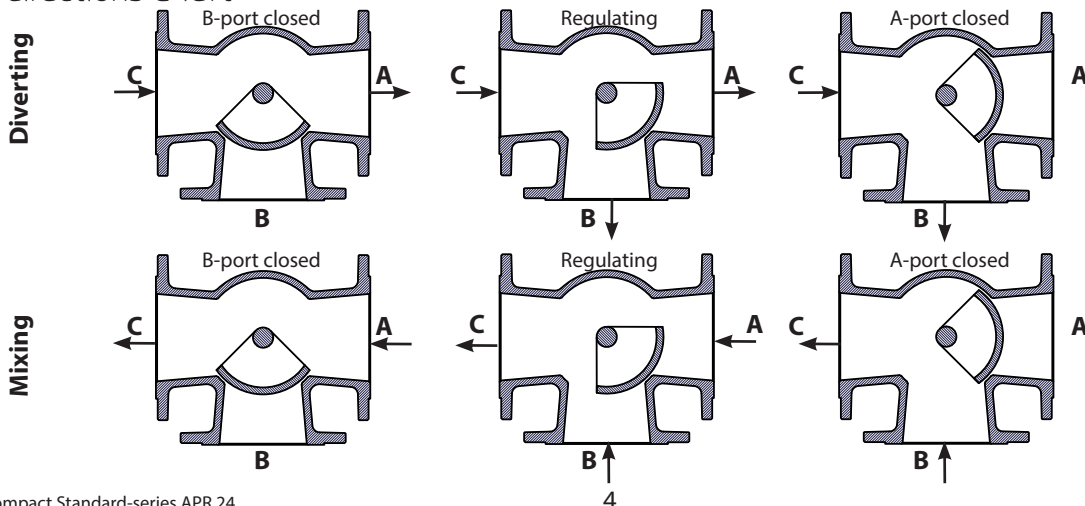
Flow directions C-middle



Flow directions C-right



Flow directions C-left



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Installation

The valve ports are marked A, B and C. The slide position is marked on the top of the spindle. The slide is moving between port A and B. The valve can be installed vertically or horizontally. OMEGA Compact can be operated with electrical or pneumatic actuators. The handwheel on the actuators can be used to change the position of the slide in case of power failure.

Spindle marking



Slide position for valve type C-middle (Arrows pointing in direction of closed ports)



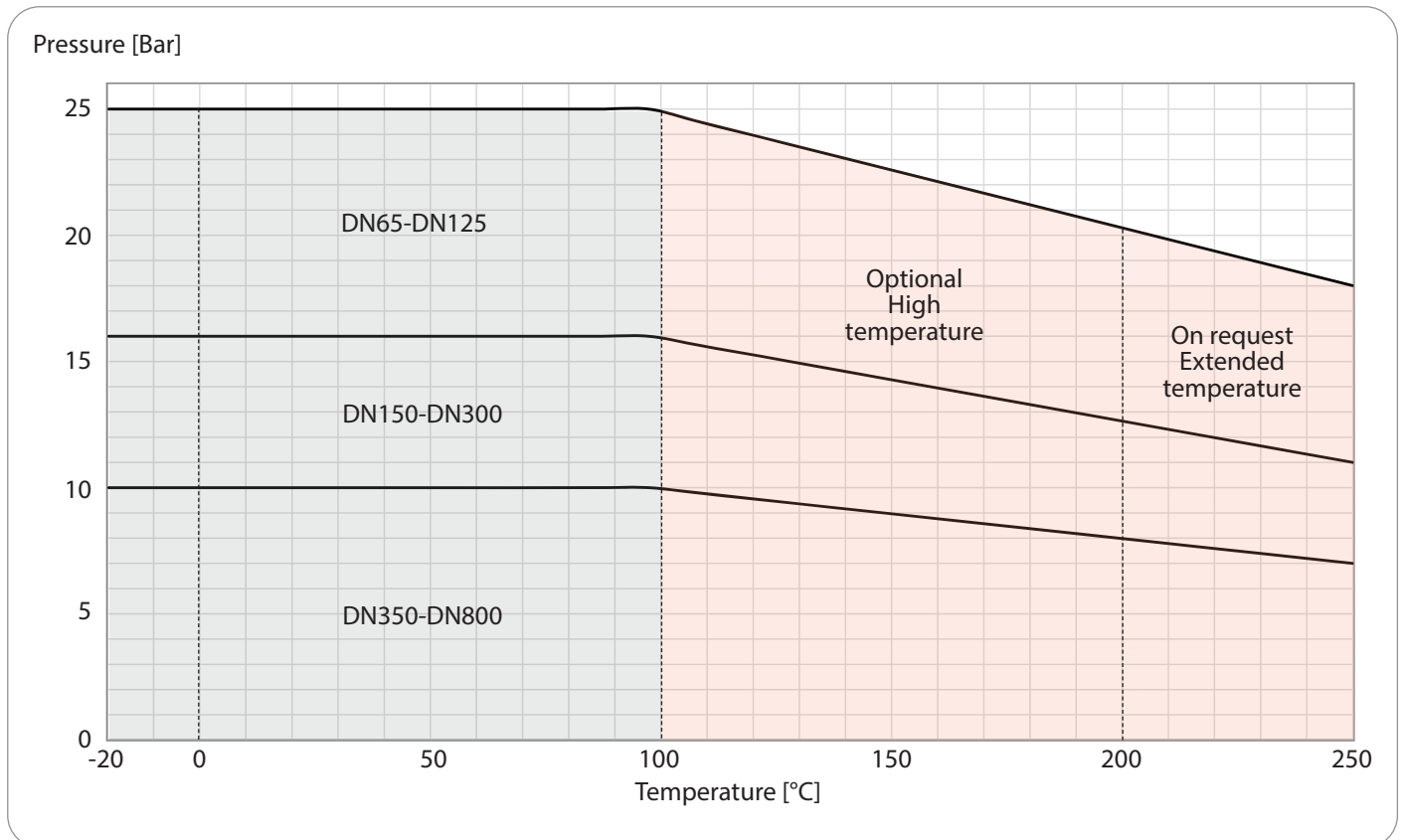
Slide position for valve type C-right & C-left (Arrow pointing in direction of closed port)

Ordering

When ordering OMEGA Compact with actuators, the actuators will be mounted on the valve and calibrated from factory prior to shipment.

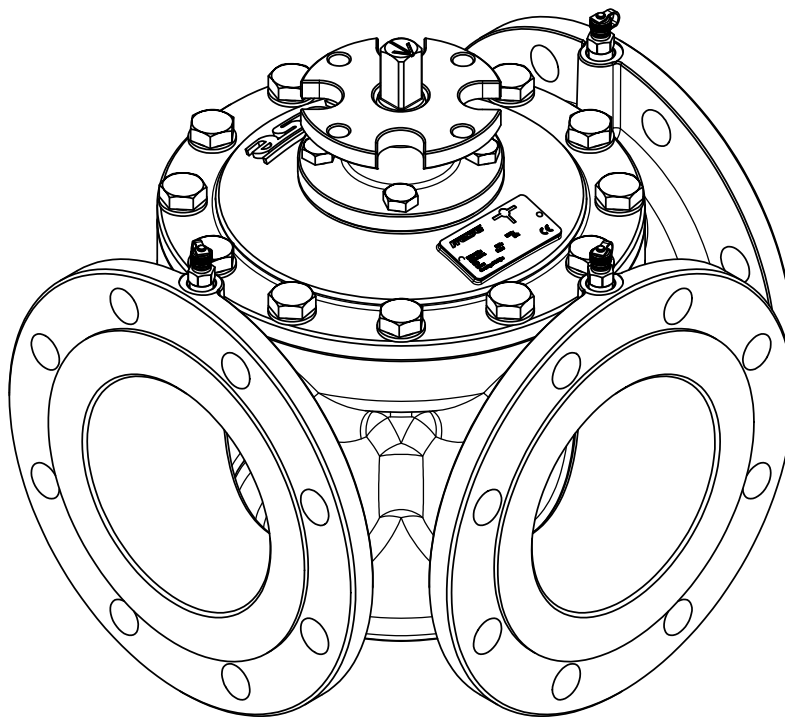
Please refer to the Frese Rotary Valve Actuator Programme for electrical and pneumatic actuators.

Temperature/Pressure diagram, According to DIN 2401



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Specification Text

- The valve housing shall be EN-GJS-400-18LT
- The valve body and cover shall be EN-GJS-400-18LT
- The valve shall have flange connection according to EN 1092-2, ANSI Class 150, JIS B 2210 5K or JIS B 2210 10K
- The cover shall have an actuator flange connection according to ISO 5211
- The valve shall be capable of closing against the maximum operating pressure
- The valve shall have a maximum leakage rate of 0.5 % of the Kvs value
- The valve shall be operated by handwheel on the actuator in case of power failure
- The soft sealing in the valve must be replaceable, without disassembling the cover or the valve
- The temperature control valve should be of rotary type with 90° rotation between ports

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