

3-way Control Valve type G3FM-TL (AB-Left)

Nodular cast iron, PN25, DN 65 – 125 mm / PN16, DN150 - 300 mm / PN10, DN 350 - 800 mm

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TECHNICAL DATA

Materials:

- Valve body, slide	Nodular cast iron EN-GJS-400-15
- O-ring	NBR 70A
- U-ring	PTFE
Flow characteristic	Almost linear
Leakage rate	Max. 0.5%
Regulating capability	Kvs/Kvr > 25

Flanges	EN 1092-2 PN 10/16
- Option	JIS B 2210 5K

Counter flanges (suggested for EN 1092-2)

DIN 2632 – PN 10
DIN 2633 – PN 16

Max. pressure Δp_L , against which the valve can close:

- DN 65 - 125	25 bar
- DN 150-300	16 bar
- DN 350-800	10 bar

Nominal pressure

- DN 65-125 mm	PN 25 max. 100 °C (option 250°C)
- DN 150-300 mm	PN 16, max. 100°C (option 250°C)
- DN 350-800 mm	PN 10, max. 100°C (option 250°C)
- DN 150-800 mm	JIS 5K (option)

Slide in Nodular cast iron

APPLICATIONS

Control valve type G3FM-TL is a three-way control valve with a slide for quarter turn operation designed for regulating of fresh water, lubricating oil and other liquid media. The valves are designed for use in conjunction with industrial processes, district heating and marine installations with large water or lubricating oil volumes:

- Engine Jacket Cooling Water System
- Lubricating Oil Cooling
- Central Cooling Water System, etc.

The valves are designed for use in conjunction with valve motor type CAR with handle for manual operation or for use in conjunction with a pneumatic actuator.

DESIGN

The valve body and the valve slide are made of nodular cast iron. The valve flanges are drilled according to EN 1092-2 (JIS B 2210 option).

FUNCTION

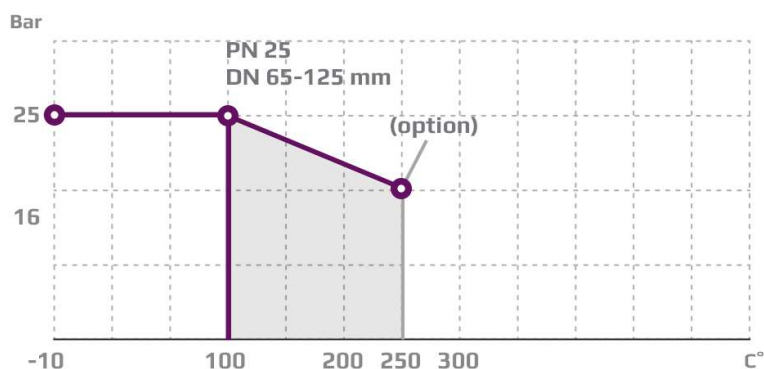
The slide is firmly connected with the motor spindle. When the slide is in the one outer position by turning the spindle, connection A-AB is fully open and connection B-AB is fully closed. In the other outer position connection A-AB is fully closed and connection B-AB is fully open. In the intermediate positions the opening degrees change proportionally. The valve has a small tolerance between body and slide. To minimize the leakage an O-ring is mounted in a groove on the slide.

FEATURES

- Simple design secures reliable controls and reduces costly downtime.
- Low leakage rate secures energy savings.
- Flexible choice of port placement

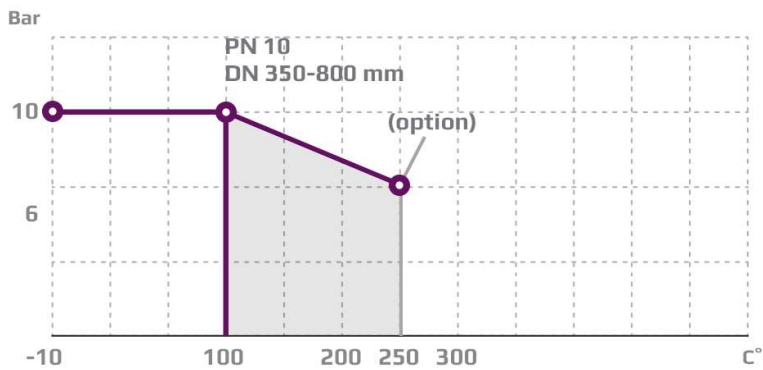
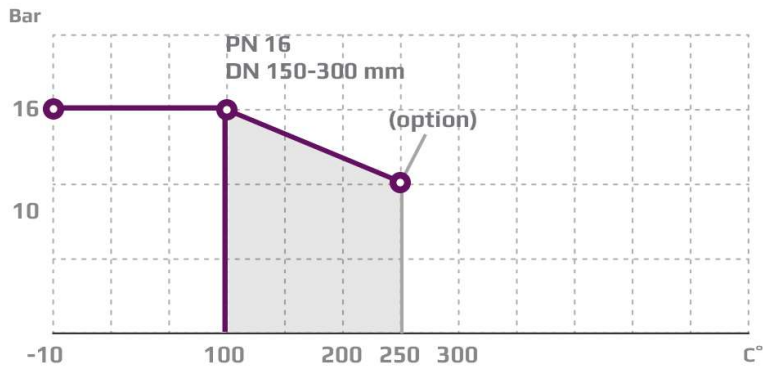
PRESSURE/TEMPERATURE DIAGRAM

According to DIN 2401

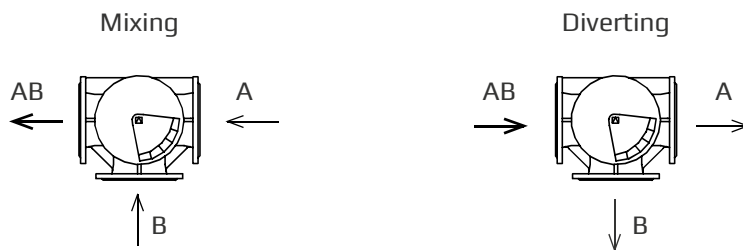


PRESSURE/TEMPERATURE DIAGRAM

According to DIN 2401



PORT NUMBERING



MOUNTING

The valve connections are marked A, B and AB. The slide is operating between A and B. Check slide position before installation in the pipe. The slide position is marked on the top of the shaft. The valves can be installed with vertical as well as horizontal spindles. The valves must be mounted in a way that the valve actuator will be exposed to a minimum of moisture and unnecessary vibrations. Valves can also be supplied in AB-Right configuration (data sheet 0.2.6.02).

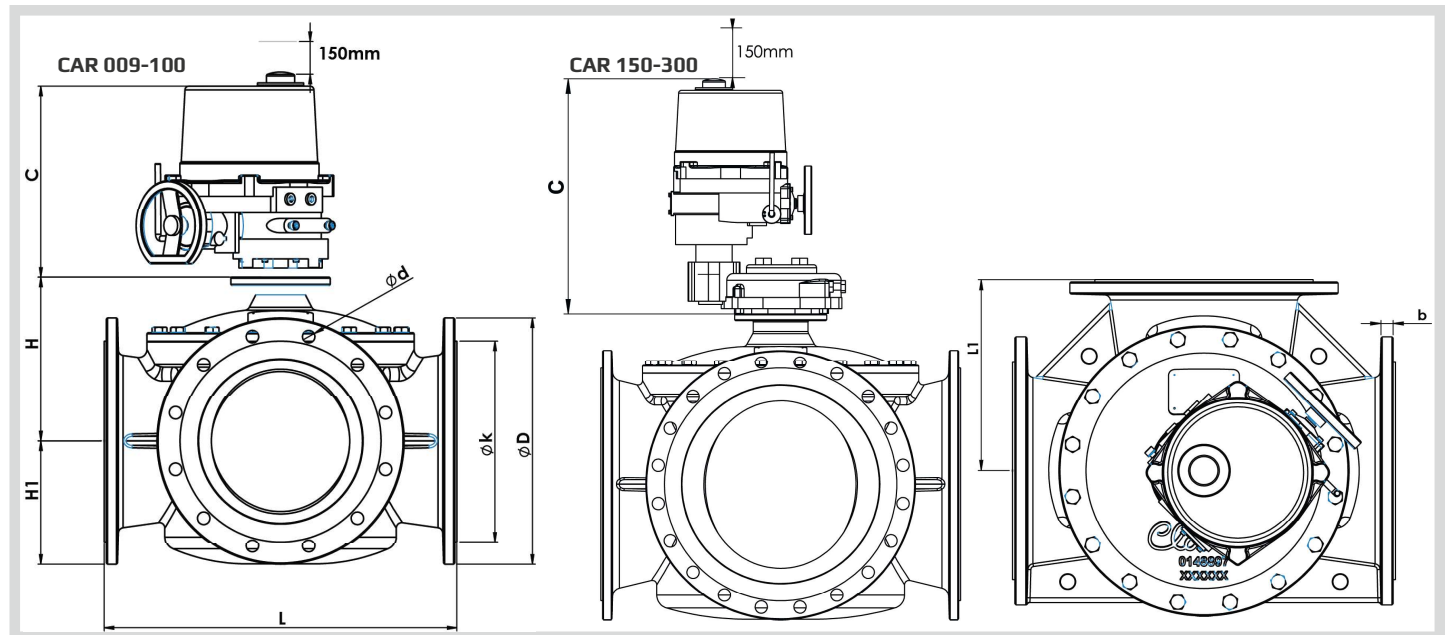
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DIMENSION SKETCH



Type	L in	L1 in	H in	H1 in	b in	C mm	EN 1092-2			ANSI Class 150			JIS B 2210 5K			JIS B 2210 10K		
							D (dia.) (mm)	k (dia.) (mm)	d mm dia. (number)	D (dia.) (in)	k (dia.) (in)	d in dia. (number)	D (dia.) (mm)	k (dia.) (mm)	d mm dia. (number)	D (dia.) (mm)	k (dia.) (mm)	d mm dia. (number)
65 G3FM-TL	11,50	5,75	5,31	3,54	0,79	10,75	185	145	19x(8)	7	5 1/2	0.75x(4)	155	130	15x(4)	175	140	19x(4)
80 G3FM-TL	11,50	5,75	5,51	3,70	0,79	10,75	200	160	19x(8)	7 1/2	6	0.75x(4)	180	145	19x(4)	185	150	19x(8)
100 G3FM-TL	13,78	6,89	6,22	4,41	0,67	10,75	235	190	23x(8)	9	7 1/2	0.75x(8)	200	165	19x(8)	210	175	19x(8)
125 G3FM-TL	15,75	7,87	7,05	4,84	0,67	10,75	270	220	28x(8)	10	8 1/2	0.88x(8)	235	200	19x(8)	250	210	23x(8)
150 G3FM-TL	17,24	8,62	7,72	5,47	0,79	10,87	285	240	23x(8)	11	9 1/2	0.88x(8)	265	230	19x(8)	280	240	23x(8)
200 G3FM-TL	20,87	10,63	9,29	6,89	0,83	14,21	340	295	23x(12)	13 1/2	11 3/4	0.88x(8)	320	280	23x(8)	320	290	23x(12)
250 G3FM-TL	23,31	11,81	10,75	8,07	0,91	14,21	400	355	28x(12)	16	14 1/4	1x(12)	385	345	23x(12)	400	355	25x(12)
300 G3FM-TL	25,55	12,99	12,01	9,06	1,00	14,21	455	410	28x(12)	19	17	1x(12)	430	390	23x(12)	445	400	25x(16)
350 G3FM-TL	28,23	14,17	13,27	10,04	1,00	14,21	505	460	23x(16)	21	18 3/4	1.12x(12)	480	435	25x(12)	490	445	25x(16)
400 G3FM-TL	30,31	15,16	14,76	11,22	1,02	14,21	565	515	28x(16)	23 1/2	21 1/4	1.12x(16)	540	495	25x(16)	560	510	27x(16)
450 G3FM-TL	32,28	16,14	15,39	12,20	1,04	21,89	615	565	28x(20)	25	22 3/4	1.25x(16)	605	555	25x(16)	620	565	27x(20)
500 G3FM-TL	35,43	17,91	16,73	13,39	1,08	21,89	670	620	28x(20)	27 1/2	25	1.25x(20)	655	605	25x(20)	675	620	27x(20)
550 G3FM-TL	35,43	17,91	16,73	14,69	1,08	21,89							720	665	27x(20)	745	680	33x(20)
600 G3FM-TL	39,37	19,88	18,50	15,47	1,22	21,89	780	725	31x(20)	32,00	29,50	1.38x(20)	770	715	25x(20)	795	730	33x(24)
650 G3FM-TL	1050	525	515	423	35	556							825	770	27x(24)	845	780	33x(24)
700 G3FM-TL	43,54	21,77	20,43	18,19	1,34	21,89	895	840	31x(24)				875	820	27x(24)	905	840	33x(24)
800 G3FM-TL	48,43	24,21	25,59	18,31	2,09		1015	950	34x(24)				995	930	33x(24)	1020	950	33x(28)

SPECIFICATIONS

Type	Flange connection in	k _{vs} -value ¹⁾ Mixing valve m ³ /h	k _{vs} -value ¹⁾ Diverting valve m ³ /h	Torque lb-ft	Weight lbs
65 G3FM-TL	2 1/2	95	120	44,25	57,32
80 G3FM-TL	3	122	154	47,94	63,93
100 G3FM-TL	4	175	220	88,51	90,93
125 G3FM-TL	5	245	330	147,51	127,87
150 G3FM-TL	6	395	425	147,51	156,53
200 G3FM-TL	8	800	1100	243,40	251,33
250 G3FM-TL	10	1500	2100	387,22	350,53
300 G3FM-TL	12	2000	2650	538,42	456,36
350 G3FM-TL	14	2530	3380	722,81	612,89
400 G3FM-TL	16	3050	3950	1010,46	762,80
450 G3FM-TL	18	3680	4480	1143,22	954,60
500 G3FM-TL	20	4150	5250	1416,12	1241,20
550 G3FM-TL	22	4150	5250	1416,12	1267,66
600 G3FM-TL	24	4800	6050	2175,81	1798,97
700 G3FM-TL	28	5500	7000	TBC	TBC
800 G3FM-TL	32	6200	8000	2950,25	4629,71
800 G3FM-TL	800	6200	8000	4000	2100

¹⁾k_{vs}-value for port A and B 50% open.

*Torque calculated at max inlet P for:

DN 65 - 125 = 25 Bar

DN 150-300 = 16 Bar

DN 350-800 = 10 Bar