

# 3-way Control Valve type G3FM-TM (AB-Middle)

Nodular cast iron, PN16, DN 80 - 250 mm / PN10, DN 300 - 450 mm

O-2.6.03.02-C

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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 2633 - PN 16

Max. pressure  $\Delta p_L$ , against which the valve can close:

- DN 250 16 Bar
- DN 450 10 Bar

### Nominal pressure

- DN 250 mm	PN 16, max. 100°C
- DN 450 mm	PN 10, max. 100°C

Slide in Nodular cast iron

## APPLICATIONS

Control valve type G3FM-TM 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).

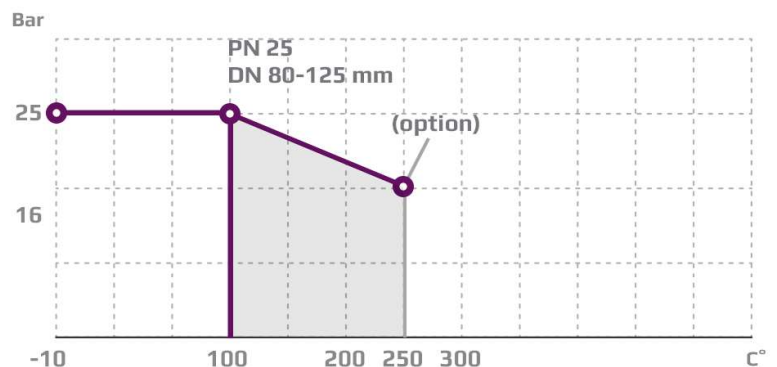
## FUNCTION

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

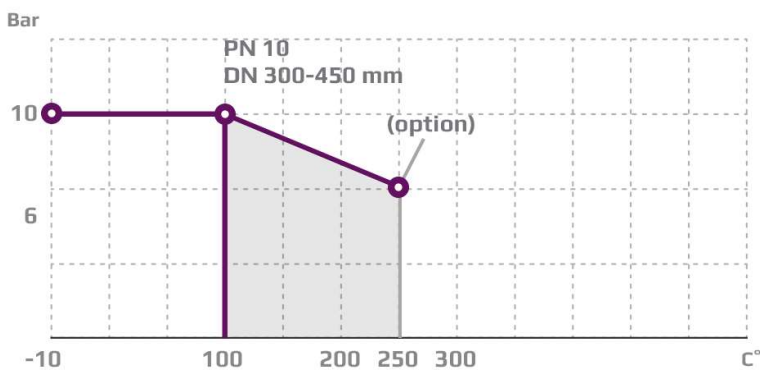
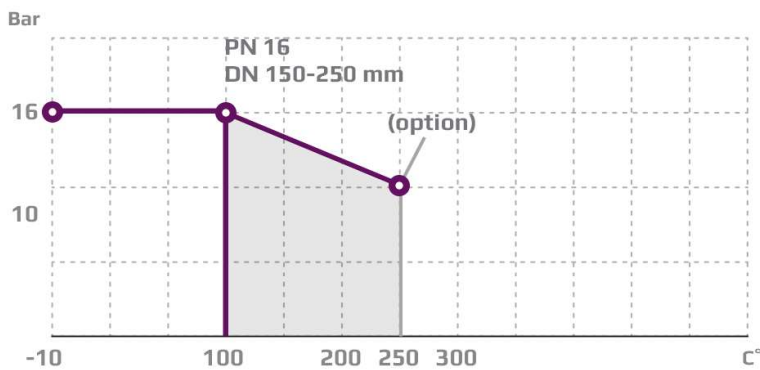
- Simple design secures reliable controls and reduces costly downtime.
- Low leakage rate secures energy savings.
- Flexible choice of port placement

Subject to change without notice.

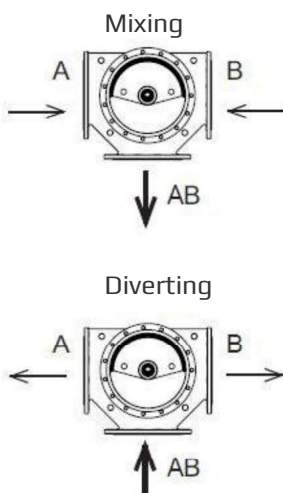


### PRESSURE/TEMPERATURE DIAGRAM

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 0.2.6.02.01) or AB-Left (data sheet 0.2.6.03).



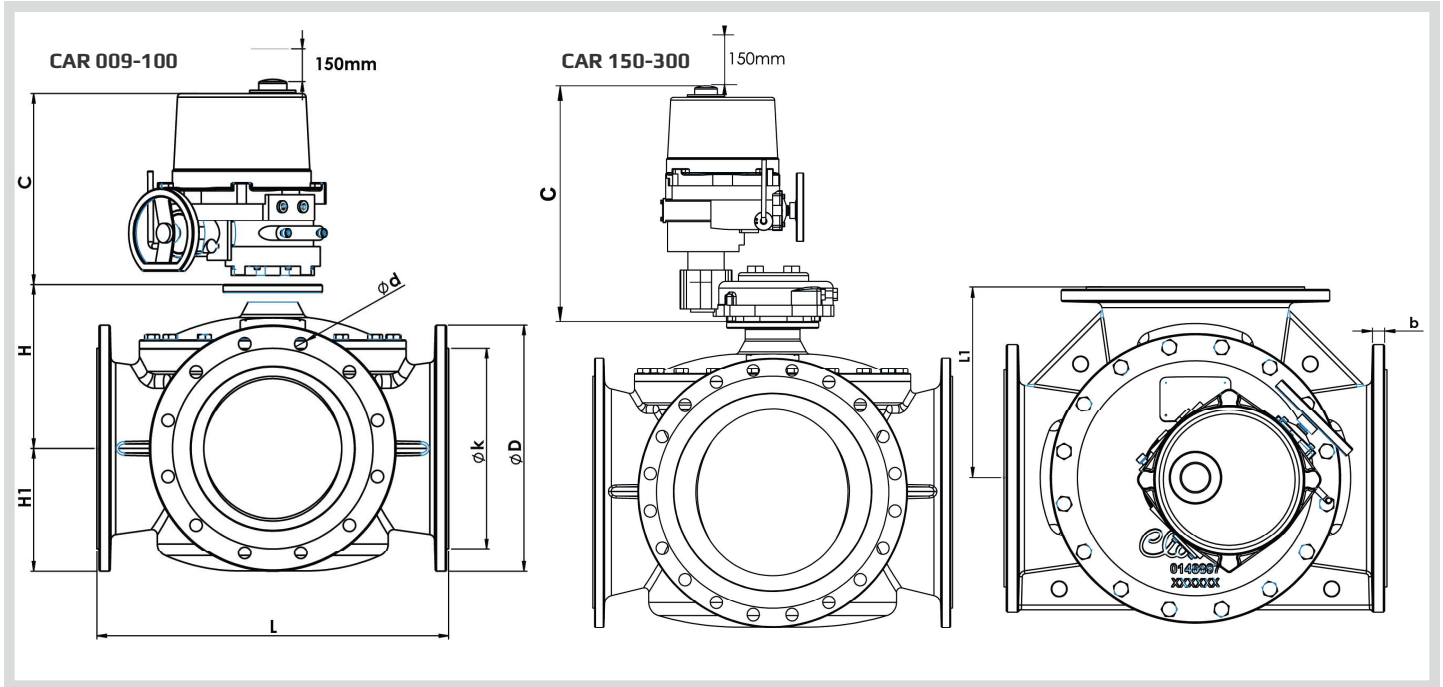
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## DIMENSION SKETCH



Type	L in	L1 in	H in	H1 in	b in	C in	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)
80 G3FM-TM	11,50	5,75	5,51	3,70	0,79	10,75	200	160	19x(8)	7 1/2	6	0.75x(8)	180	145	19x(4)	185	150	19x(8)
100 G3FM-TM	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-TM	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-TM	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-TM	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-TM	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-TM	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-TM	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-TM	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-TM	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)

## SPECIFICATIONS

Type	Flange connection DN in mm	$k_{vs}$ -value <sup>1)</sup> Mixing valve m <sup>3</sup> /h	$k_{vs}$ -value <sup>1)</sup> Diverting valve m <sup>3</sup> /h	Torque Nm for inlet P*	Weight kg
65 G3FM-TM	65	110	127	72	20
80 G3FM-TM	80	122	154	85	29
100 G3FM-TM	100	220	248	145	41
125 G3FM-TM	125	369	437	245	58
150 G3FM-TM	150	510	600	259	71
200 G3FM-TM	200	807	1100	435	114
250 G3FM-TM	250	1500	2100	695	159
300 G3FM-TM	300	2000	2650	795	207
350 G3FM-TM	350	2530	3380	1350	278
400 G3FM-TM	400	3050	3950	TBC	346
450 G3FM-TM	450	3680	4480	2100	433

<sup>1)</sup> $k_{vs}$ -value for port A and B 50% open.

\*Torque calculated at max inlet P for:  
 DN 65 - 125 = 25 Bar  
 DN 150-250 - 16 Bar  
 DN 300-450 - 10 Bar

