

TF

2-Way / 3-Way Globe Valve (DN65-500)



### Features



#### Low Leakage Rate

The leakage rate of valve is no more than 0.01% Kvs, the valve core and valve seat sealing surface are all stainless steel which could avoid the damage caused by debris in medium.



#### V-ring Sealing Gland+ Spring Auto-compensation

Due to V-ring shape of the sealing gland, the effects of the inner hole shrinkage and cylindrical expansion of the sealing gland in the case of pressing by the spring, which ensures the sealing of the stem part is effective for a long time.



#### Perfect Control Curve

The rangeability of valve is 100:1, equipped with TW...series actuator which can get a perfect equal-percentage control curve.



#### High Quality Material

The valve body is made of high-quality ductile iron material(QT450-10), and the surface adopts electrostatic spraying craft, the body has better intensity and corrosion resistance.



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## 2-Way / 3-Way Globe Valve (DN65-500)



### Type Summary Flanged Water Valve PN16

<b>Series</b>	TW500...	TW1000...	TW1001...	TW3000...	TW5000...	TW16000...
<b>Actuator Rated Stroke</b>	30mm	30mm	50mm	50mm	70mm	110mm
<b>Nominal Output Force</b>	500N	1000N	1000N	3000N	5000N	16000N
<b>Icon</b>						
<b>Proportional Type 0(2)~10VDC,0(4)~20mA</b>	TW500-XD24-S.12	TW1000-XD24-S.12	TW1001-XD24-S.14	TW3000-XD24-S.14	TW5000-XD24-S.14	TW16000-XD220-S.12
<b>3-position Type(on/off)</b>	TW500-XD24-S.12	TW1000-XD24-S.12	TW1001-XD24-S.14	TW3000-XD24-S.14	TW5000-XD24-S.14	TW16000-XD220-S.12
<b>RS485 bus and NFC(optional)</b>	TW500-XD24-S485.12	TW1000-XD24-S485.12	TW1001-XD24-S485.14	TW3000-XD24-S485.14	TW5000-XD24-S485.14	/
<b>2 SPDT Feedback Function(optional)</b>	TW500-XD24-SF2.12	TW1000-XD24-SF2.12	TW1001-XD24-SF2.14	TW3000-XD24-SF2.14	TW5000-XD24-SF2.14	/

Valve Body		Type	DN [mm]	Stroke [mm]	Max. Flow Parameter Kvs [m3/h]	$\Delta P_s$ [MPa]	$\Delta P_s$ [MPa]	$\Delta P_s$ [MPa]	$\Delta P_s$ [MPa]	$\Delta P_s$ [MPa]	$\Delta P_s$ [MPa]
PN16, Medium Temp. -25 °C ~ 130 °C Flanged water valve		TF15-2VGC-S.12	DN15	20	4	1.10	1.60				
		TF20-2VGC-S.12	DN20	20	6.3	1.10	1.60				
		TF25-2VGC-S.12	DN25	20	10	0.70	1.50				
		TF32-2VGC-S.12	DN32	20	16	0.40	0.90				
		TF40-2VGC-S.12	DN40	20	25	0.25	0.50				
		TF50-2VGC-S.12	DN50	20	40		0.30				
		TF65-2VGC-S.12	DN65	20	63		0.60				
		TF80-2VGC-S.14	DN80	30	100			0.60			
		TF100-2VGC-S.14	DN100	40	160			0.60			
		TF125-2VGC-S.14	DN125	40	250				1.60		
		TF150-2VGC-S.14	DN150	40	350				1.60		
		TF200-2VGC-S.14	DN200	40	520				1.60		
		TF250-2VGC-S.14	DN250	40	700				1.60		
		TF300-2VGC-S.14	DN300	60	1000					1.60	
		TF350-2VGC-S.14	DN350	60	1300					1.60	
		TF400-2VGC-Y.12	DN400	100	2200						1.60
TF450-2VGC-Y.12	DN450	100	2600						1.60		
TF500-2VGC-Y.12	DN500	100	3200						1.60		
PN16, Medium Temp. -25 °C ~ 130 °C 3-port flanged water valve		TF15-3VGC-S.12	DN15	20	4	1.00			1.60		
		TF20-3VGC-S.12	DN20	20	6.3	1.10			1.60		
		TF25-3VGC-S.12	DN25	20	10	0.70			1.60		
		TF32-3VGC-S.14	DN32	20	16	0.40			1.60		
		TF40-3VGC-S.14	DN40	20	25	0.25			1.60		
		TF50-3VGC-S.14	DN50	20	40		0.30		1.10		
		TF65-3VGC-S.14	DN65	20	63				0.60		
		TF80-3VGC-HS(FS).14	DN80	30	100				0.40		
		TF100-3VGC-HS(FS).14	DN100	40	160				0.20		
		TF125-3VGC-HS(FS).14	DN125	40	250				0.15	0.20	
		TF150-3VGC-HS(FS).14	DN150	40	350				0.10	0.15	
		TF200-3VGC-HS(FS).14	DN200	40	520					0.08	0.30
		TF250-3VGC-HS(FS).14	DN250	40	700					0.05	0.20
		TF300-3VGC-HY(FY).12	DN300	100	1200						0.15
		TF350-3VGC-HY(FY).12	DN350	100	1800						0.12
		TF400-3VGC-HY(FY).12	DN400	100	2200						0.10
TF450-3VGC-HY(FY).12	DN450	100	2600						0.08		
TF500-3VGC-HY(FY).12	DN500	100	3200						0.06		



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## 2-Way / 3-Way Globe Valve (DN65-500)



### Type Summary Flanged Water Valve PN25

Series	TW500...	TW1000...	TW1001...	TW3000...	TW5000...	TW16000...				
Actuator Rated Stroke	30mm	30mm	50mm	50mm	70mm	110mm				
Nominal Output Force	500N	1000N	1000N	3000N	5000N	16000N				
Icon										
Proportional Type 0(2)~10VDC,0(4)~20mA	TW500-XD24-S.12	TW1000-XD24-S.12	TW1001-XD24-S.14	TW3000-XD24-S.14	TW5000-XD24-S.14	TW16000-XD220-S.12				
3-position Type(on/off)	TW500-XD24-S.12	TW1000-XD24-S.12	TW1001-XD24-S.14	TW3000-XD24-S.14	TW5000-XD24-S.14	TW16000-XD220-S.12				
RS485 bus and NFC(optional)	TW500-XD24-S485.12	TW1000-XD24-S485.12	TW1001-XD24-S485.14	TW3000-XD24-S485.14	TW5000-XD24-S485.14	/				
2 SPDT Feedback Function(optional)	TW500-XD24-SF2.12	TW1000-XD24-SF2.12	TW1001-XD24-SF2.14	TW3000-XD24-SF2.14	TW5000-XD24-SF2.14	/				
Valve Body	Type	DN [mm]	Stroke [mm]	Max. Flow Parameter Kvs [m3/h]	ΔPs [MPa]	ΔPs [MPa]	ΔPs [MPa]	ΔPs [MPa]	ΔPs [MPa]	ΔPs [MPa]
PN16, Medium Temp. -25 °C ~ 130 °C Flanged water valve	TF15-2VGD-S.12	DN15	20	4	1.10	1.60				
	TF20-2VGD-S.12	DN20	20	6.3	1.10	1.60				
	TF25-2VGD-S.12	DN25	20	10	0.70	1.50				
	TF32-2VGD-S.12	DN32	20	16	0.40	0.90				
	TF40-2VGD-S.12	DN40	20	25	0.25	0.50				
	TF50-2VGD-S.12	DN50	20	40		0.30				
	TF65-2VGD-S.12	DN65	20	63		0.60				
	TF80-2VGD-S.14	DN80	30	100			0.60			
	TF100-2VGD-S.14	DN100	40	160			0.60			
	TF125-2VGD-S.14	DN125	40	250				1.60		
	TF150-2VGD-S.14	DN150	40	350				1.60		
	TF200-2VGD-S.14	DN200	40	520				1.60		
	TF250-2VGD-S.14	DN250	40	700				1.60		
	TF300-2VGD-S.14	DN300	60	1000					1.60	
	TF350-2VGD-S.14	DN350	60	1300					1.60	
	TF400-2VGD-Y.12	DN400	100	2200						1.60
TF450-2VGD-Y.12	DN450	100	2600						1.60	
TF500-2VGD-Y.12	DN500	100	3200						1.60	
PN16, Medium Temp. -25 °C ~ 130 °C 3-port flanged water valve	TF15-3VGD-S.12	DN15	20	4	1.00		1.60			
	TF20-3VGD-S.12	DN20	20	6.3	1.10		1.60			
	TF25-3VGD-S.12	DN25	20	10	0.70		1.60			
	TF32-3VGD-S.14	DN32	20	16	0.40		1.60			
	TF40-3VGD-S.14	DN40	20	25	0.25		1.60			
	TF50-3VGD-S.14	DN50	20	40		0.30		1.10		
	TF65-3VGD-S.14	DN65	20	63			0.60			
	TF80-3VGD-HS(FS).14	DN80	30	100			0.40			
	TF100-3VGD-HS(FS).14	DN100	40	160			0.20			
	TF125-3VGD-HS(FS).14	DN125	40	250			0.15	0.20		
	TF150-3VGD-HS(FS).14	DN150	40	350			0.10	0.15		
	TF200-3VGD-HS(FS).14	DN200	40	520				0.08	0.30	
	TF250-3VGD-HS(FS).14	DN250	40	700				0.05	0.20	
	TF300-3VGD-HY(FY).12	DN300	100	1200					0.15	
	TF350-3VGD-HY(FY).12	DN350	100	1800					0.12	
	TF400-3VGD-HY(FY).12	DN400	100	2200					0.10	
	TF450-3VGD-HY(FY).12	DN450	100	2600					0.08	
	TF500-3VGD-HY(FY).12	DN500	100	3200					0.06	

All stated specifications are correct at the printing date and subject to change without notice or obligation. Actual products might differ from the pictures shown.

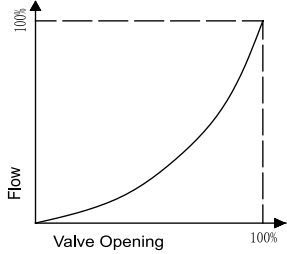


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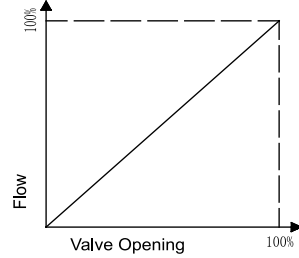
# 2-Way / 3-Way Globe Valve (DN65-500)



## Flow Characteristic



A-AB Equal-percentage Flow Characteristic



B-AB Equal-linear Flow Characteristic

## Relationship between Differential Pressure and Flow

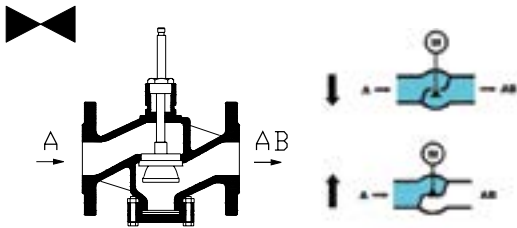
$$Kvs = \frac{V}{\sqrt{\frac{\Delta P}{100}}}$$

$\Delta P$ : Differential pressure when valve is full open (Unit: KPa)

V: Rating flow at the  $\Delta P$  (Unit: m<sup>3</sup>/h)

Kvs: Nominal flow coefficient, which refer to the flow when medium (Density= 1g/cm<sup>3</sup>) go through the full open control valve, whose  $\Delta P$  is 100KvPa.

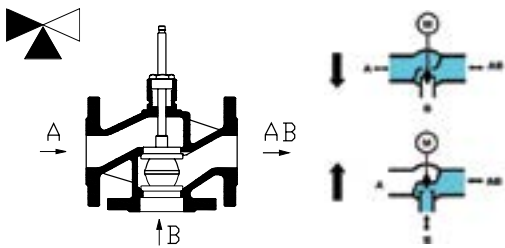
## Structure Characteristic



### 2-port Valve

When the valve stem retracts, flow increases from A to AB.

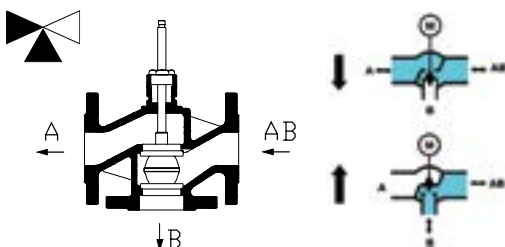
When the valve stem extends, flow decreases from A to AB.



### 3-port Mixing Valve

When the valve stem retracts, A port flow increases and B port flow decreases.

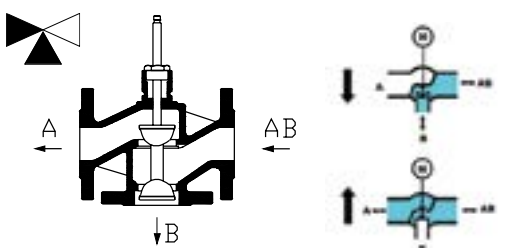
When the valve stem extends, A port flow decreases, B port flow increases.



### 3-port Diverting Valve DN15-DN65

When the valve stem retracts, A port flow increases and B port flow decreases.

When the valve stem extends, A port flow decreases, B port flow increases.



### 3-port diverting valve DN80-DN500

When the valve stem retracts, A port flow decreases and B port flow increases.

When the valve stem extends, A port flow increases and B port flow decreases.



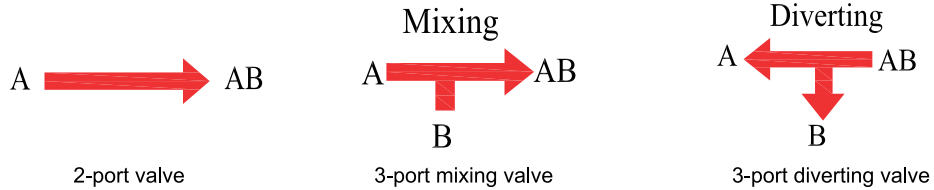
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## 2-Way / 3-Way Globe Valve (DN65-500)

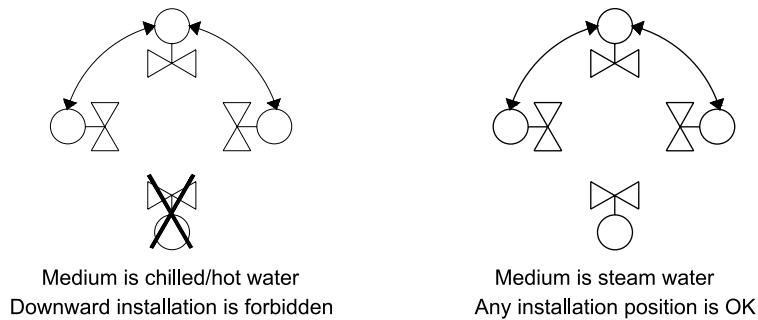


### Installation Instruction

- Please note that the medium flow direction in valve should be consistent with the medium of pipeline!



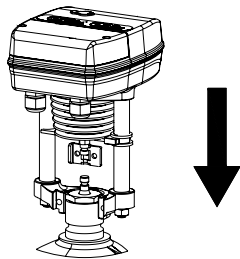
- Please pay attention to the valve mounting orientation!



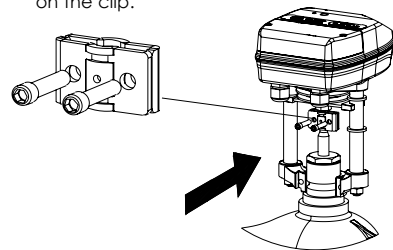
- Valve can be installed in the water supply pipe or return water pipe (priority selection). Besides, filter and check valve are recommended to be installed. When the medium is steam, install draw off valve in the pipe can remove the condensed water, or it will affect the lifetime of valve (installed on the return water pipe can control the water flow more smoothly, meanwhile the return water temperature is lower which can extend the lifetime of valve).
- Valve and actuator can be assembled easily. Neither need any special tools nor need to do any adjustment.

### Installation Orientation

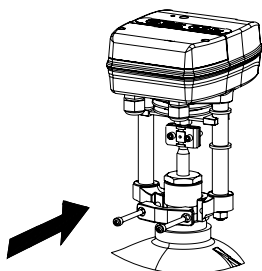
- Prepare for assembling actuator, take down the fixed fitting, and disengage the clip.



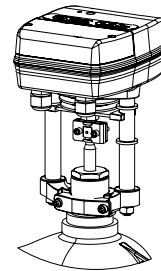
- Made the actuator's stem is concentric with the valve's stem which can be observed from the hole, and make these two connecting faces keep coinciding. Then lock the two screws on the clip.



- Pulling the fixed fitting to the groove and locking by two screws.



- The status after assembled, face and back.



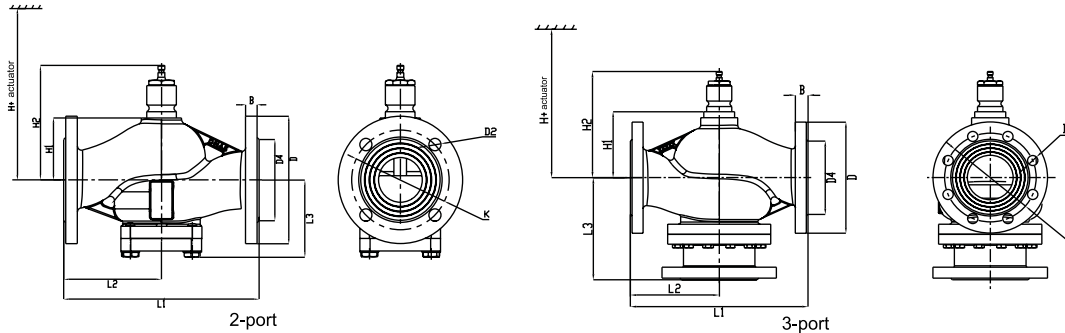


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Flow Characteristic



PN16 Series

DN (PN16)	B mm	D mm	D2 mm	D4 mm	K mm	L1 mm	L2 mm	2-port L3mm	3-port L3'mm	H1	H2	2-port Net Weight Kg	3-port Net Weight Kg	H-1 mm	H-2 mm	H-3 mm	H-4 mm
15	14	95	4-14	46	65	130	65	70	106	41	117	3.6	4.5	356	386	/	/
20	16	105	4-14	56	75	150	75	70	106	46	122	4.6	5.7	361	391	/	/
25	16	115	4-14	65	85	160	80	75	111	48	124	5.2	6.3	363	393	/	/
32	18	140	4-19	76	100	180	90	80	121	59	135	7.4	9.4	374	404	/	/
40	18	150	4-19	84	110	200	100	82	122	50	126	9.4	11.7	365	395	/	/
50	20	165	4-19	99	125	230	115	98	136	60	136	13	15.6	375	405	/	/
65	20	185	4-19	118	145	290	145	112	156	90	166	20	24	405	435	/	/
80	22	200	8-19	132	160	310	155	130	185	120	196	31	34	455	365	/	/
100-2 port	23	220	8-19	156	180	350	175	150	/	136	212	46	/	471	481	/	/
100-3 port	23	220	8-19	156	180	350	175	/	202	164	241	/	49	/	509	/	/
125	24	250	8-19	184	210	400	200	175	240	157	233	59	63	/	502	/	/
150	25	285	8-23	211	240	480	240	200	270	171	247	77	82	/	516	/	/
200	26	340	12-23	266	295	500	250	229	315	185	261	122	129	/	/	550	/
250	31	405	12-28	319	355	600	300	260	370	205	281	185	195	/	/	570	/
300	28	460	12-28	370	410	700	350	322	457	358	486	300	/	/	/	723	1340
350	36	520	16-28	429	470	788	394	402	521	438	566	500	/	/	/	803	1420
400	40	580	16-31	480	525	912	456	424	578	487	615	715	/	/	/	/	1469
450	45	640	20-31	548	585	980	490	481	643	487	615	790	/	/	/	/	1481
500	45	715	20-34	609	650	985	493	504	663	473	601	926	/	/	/	/	1476

PN25 Series

DN (PN25)	B mm	D mm	D2 mm	D4 mm	K mm	L1 mm	L2 mm	2-port L3mm	3-port L3'mm	H1	H2	2-port Net Weight Kg	3-port Net Weight Kg	H-1 mm	H-2 mm	H-3 mm	H-4 mm
15	14	95	4-14	46	65	130	65	70	106	41	117	3.6	4.5	356	386	/	/
20	16	105	4-14	56	75	150	75	70	106	46	122	4.6	5.7	361	391	/	/
25	16	115	4-14	65	85	160	80	75	111	48	124	5.2	6.3	363	393	/	/
32	18	140	4-19	76	100	180	90	80	121	59	135	7.4	9.4	374	404	/	/
40	18	150	4-19	84	110	200	100	82	122	50	126	9.4	11.7	365	395	/	/
50	20	165	4-19	99	125	230	115	98	136	60	136	13	15.6	375	405	/	/
65	20	185	8-19	118	145	290	145	112	156	90	166	20	24	405	435	/	/
80	22	200	8-19	132	160	310	155	130	185	120	196	31	34	455	365	/	/
100-2 port	23	235	8-23	156	190	350	175	150	/	136	212	46	/	471	481	/	/
100-3 port	23	235	8-23	156	190	350	175	/	202	164	241	/	49	/	509	/	/
125	24	270	8-28	184	220	400	200	175	240	157	233	59	63	/	502	/	/
150	25	300	8-28	211	250	480	240	200	270	171	247	77	82	/	516	/	/
200	26	360	12-28	274	310	500	250	229	315	185	261	122	129	/	/	550	/
250	31	425	12-31	330	370	600	300	260	370	205	281	185	195	/	/	570	/
300	28	485	16-31	389	430	700	350	322	457	358	486	300	/	/	/	723	1340
350	36	555	16-34	448	490	788	394	402	521	438	566	500	/	/	/	803	1420
400	40	620	16-37	503	550	912	456	424	578	487	615	715	/	/	/	/	1469
450	45	670	20-37	548	600	980	490	481	643	487	615	790	/	/	/	/	1481
500	48	730	20-37	609	660	985	493	504	663	473	601	926	/	/	/	/	1476

Remark:

H-1: distance from left and right flange center line to head of 500N,1000N actuator

H-2: distance from left and right center line to head of 3000N actuator

H-3: distance from left and right flange center line to head of 5000N actuator

H-4: distance from left and right flange center line to head of 16000N actuator



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## 2-Way / 3-Way Globe Valve (DN65-500)



### Technical Parameters

Spare Parts Material	
Caliber range	DN15~DN500
Permissible pressure	PN16, CPN25 are optional
Connection standard	Flanged connection ISO7005-2
Leakage rate 2-port 3-port	.0...0.01% Kvs 0...0.02% Kvs
Permissible medium Water valve (-25~130°C) Steam valve (2~180°C)	Chilled/hot water, glycol under 50% Saturated steam (<0.69MPa), Overheated steam (<180°C)
Steam valve (2~220°C) Steam valve (2~450°C)	Overheated steam (≤220°C) Overheated steam (≤450°C)
Rangeability	>100:1
Flow characteristic	A-AB equal-percentage flow characteristic B-AB equal-linear flow characteristic
Life cycles	100 thousand cycles
Spare Parts Material	
Valve body	Ductile iron QT450-10
Valve stem	Stainless steel
Valve core	Stainless steel
Sealing ring	PTFE