



EXPERT IN PROCESS VALVE



**DM1** Series

**Pneumatic Diaphragm Valve**

◆ **How to order**

<b>DM</b>	<b>1</b>	<b>32</b>	<b>PX</b>	<b>015</b>	<b>50</b>	<b>NC</b>	<b>S</b>	<b>AD</b>			
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**Series**  
 1 Stainless steel body

**Type of Actuator**

<b>PX</b>	nylon PA66 built-in SS liner NAMUR port	
<b>PR</b>	nylon PA66 built-in SS liner clean port	
<b>P</b>	nylon PA66 clean port	
<b>AE</b>	aluminium actuator	
<b>S</b>	S.S. actuator	

**Port size ④**

04/06	
08	1/4"
010	3/8"
015	1/2"
020	3/4"
025	1"
032	1-1/4"
040	1-1/2"
050	2"
065	2-1/2"
080	3"
100	4"

**Acting type**

<b>S</b>	Single acting
<b>D</b>	Double acting

**Control Function**

<b>NO</b>	Normally Open
<b>NC</b>	Normally Closed
<b>DA</b>	Liberty (double acting)

**Diaphragm material**

<b>AB</b>	EPDM (food)
<b>AD</b>	EPDM
<b>AE</b>	PTFE/EPDM
<b>AF</b>	FKM

**Body material ②**

<b>Blank</b>	Cast 316L/1.4404	stainless steel
<b>F</b>	Forge 316L/1.4435	stainless steel

For other materials, please consult the sales department

**Polishing type**

<b>8</b>	Mechanical polishing (Ra ≤0.5µm)
<b>9</b>	Electrolytic polishing (Ra ≤0.375µm)

**Accessories**

① SV1A SV1B SV1C	AX23-06/08 S.S parts	
VM414	Position Feedback	
VM424	Position Feedback	
VT525	Positioner	

**Valve Style**

10	Female thread	Stainless steel body	
3	1		Weld EN ISO1127/ISO 4200
	2		Weld SMS 3008
	3		Weld DIN 11850
5	1		Tri-clamp ISO 2852
	2		Tri-clamp BS 4825
	3	Tri-clamp DIN 32676	

**Actuator Size**

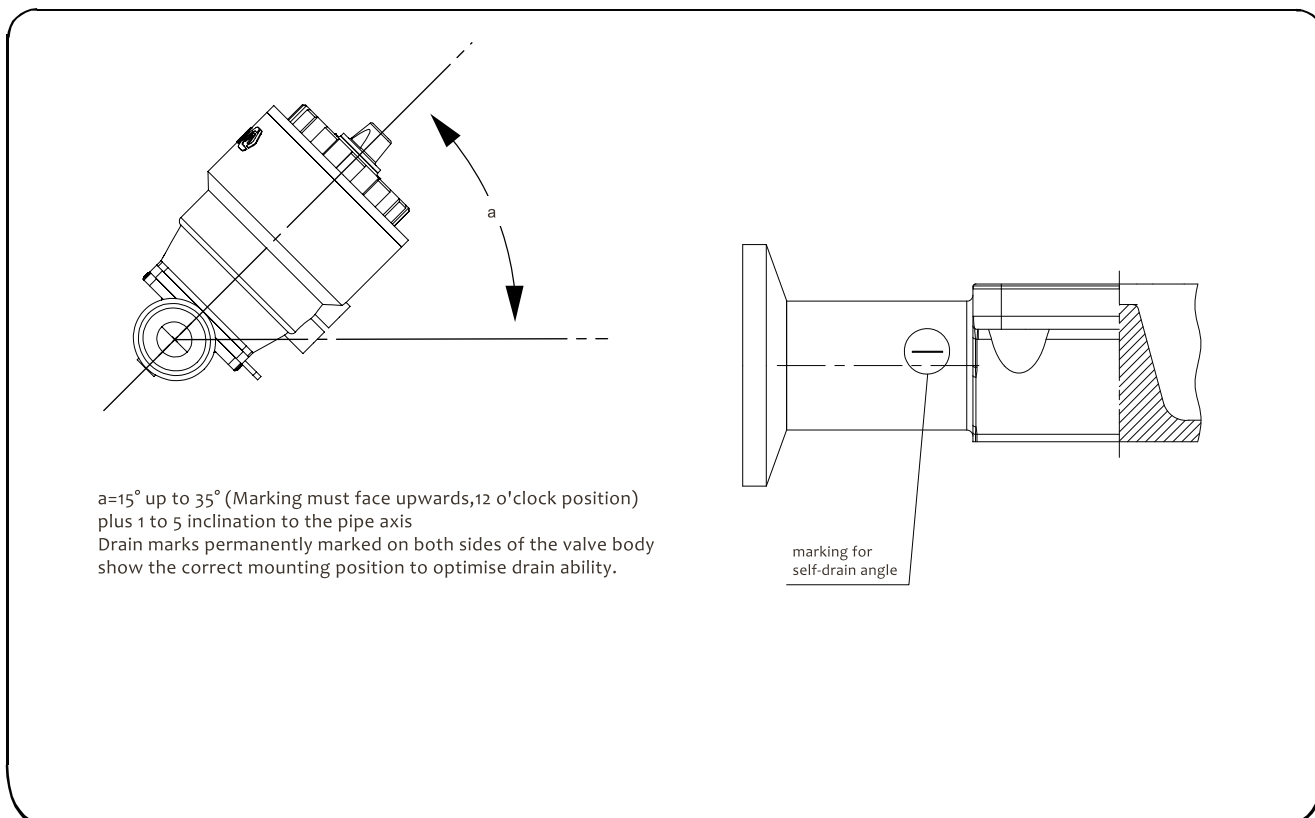
	Standard Actuator Size mm				
	P	S	AE	PX	PR
DN04/06	40	40		40	40
DN08	40	40		40	40
DN10	40	40		40	40
DN15	50,63	50,63	130	63	63
DN20	63,80	63,90	130	63	63
DN25	63,80	63,90	130	90	90
DN32	100,125	90,125	170	90	90
DN40	100,125	90,125	170	110	110
DN50	100,125	90,125	170	110	110

Note: ① For more pilot valve styles, please refer to the valve accessory unit.  
 ② For other materials, please consult the sales department.  
 ③ ISO / DIN / JIS to be customized  
 ④ Pneumatic model is currently available in size DN04-DN50, Manual model available in size DN04-DN100.

◆ **Specifications**

Orifice	DN 4-50	
Control function	2/2-way normally closed (NC)/opened (NO)	
Material of Actuator	PA: PX/PR PPS:PX/PR/ Aluminium	
Size of Actuator	40/50/63/90/110mm	
Material of Body	S.S. 316L (1.4435)	
Nominal pressure	PN16(stainless steel)	
Max. Pilot pressure	Max.8 bar.	
Diaphragm material	EPDM(AB),PTFE/EPDM(AE),EPDM(AD),and FKM(AF) optional	
Operating method	Piston	
Medium	Neutral Gases and liquids, high purity, sterile, aggressive or abrasive fluids	
Viscosity	up to viscous	
Media Temp.	EPDM(AB) PTFE/EPDM(EA)	- 10 ~ 130°C (steam sterilisation +140°C for 60 mins)
	EPDM(AD) advanced PTFE/ EPDM(AE)	- 5 ~ 143°C (steam sterilisation +150°C for 60 mins)
	FKM(AF)	- 0 ~ 130°C (not recommended for steam)
Ambient Temp.	PA actuator: - 10 ~ 120°C	
Installation	As required, preferably with actuator in upright position	
Control medium	Neutral gases, air	
Valve body processing	Inner mechanical polishing (External casting surface)	Ra ≤0.8µm
	Inner Electrolytic polishing (External casting electrolytic polishing)	Ra ≤0.6µm

◆ Installation for self-draining operation









**Self-draining operation**

Series DM sterile diaphragm valve is characteristic of its excellent self-draining features in both horizontal and vertical installation. To fully take advantage of the self-draining mechanism, pipeline designers, as well as users, should take into consideration the following factors:

- sizes of valves and pipeline
- roughness and treatment technique of inner surface (Ra)
- alignment of draining direction
- surface tension and viscosity of medium
- designated inclination angle of pipeline (2-3° as recommended)

◆ **DM100 series Pneumatic Diaphragm valve DN4 -DN100**

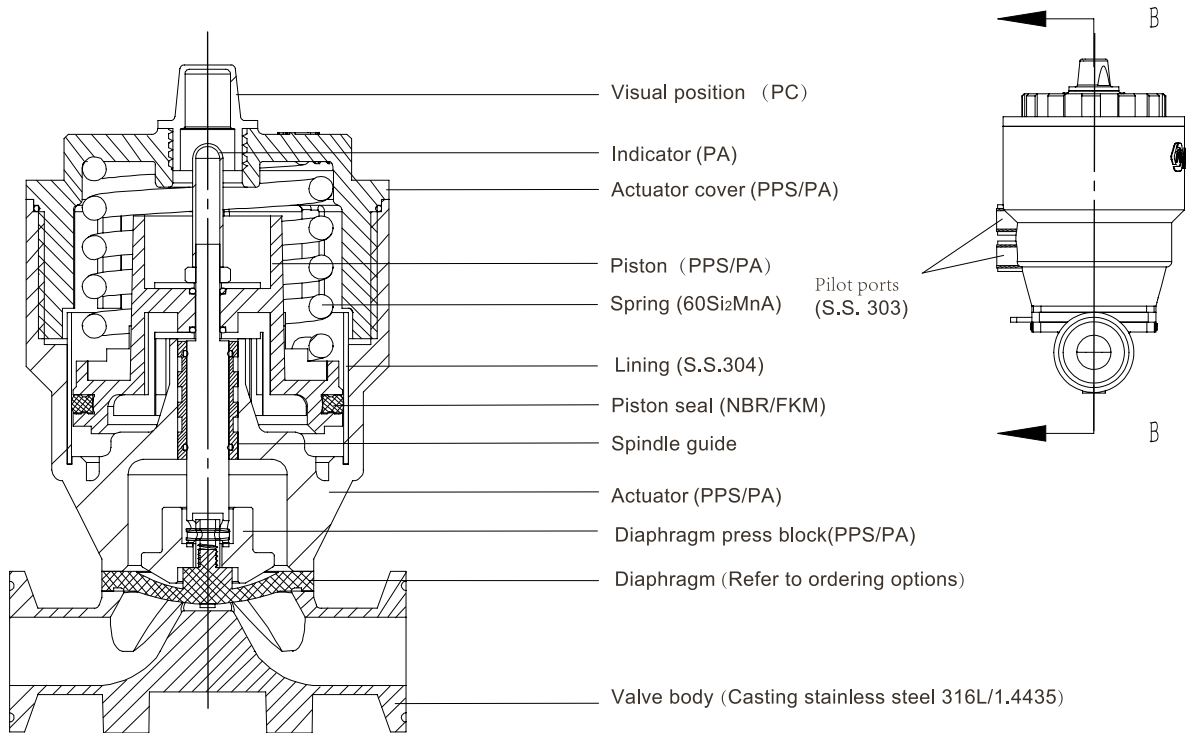
	Pic	Actuator Material/ Function	Port range	Control Pressure	Working Pressure	Temp. of Medium	Temp. of Ambient	Body Material	Standard of Pipeline interface	Optional Accessories
DM110		PA(NAMUR interface) PA(clean port) PA(classic) Stainless steel Aluminium AE / A with position indicator	DN04...DN50	4~10 bar	0~10Bar	EPDM(AB) PTFE/EPDM(EA) : -10 ~ +130°C(steam sterilization +140°Cduration of 60mins) EPDM(AD), bottom PTFE/EPDM (AE): -5 ~ +143°C (steam sterilization+150°C duration of 60mins) FKM(AF):0~+130°C(not recommended for steam)	Reference actuator material > +5°C	316L	G (DIN ISO228-1) NPT (ASME B 1.20.1) Rc (ISO7-1)	Pilot Valve/ Regulating the Cone /Manual Override for Stroke Limiting/ Proximity Switch for Position Feedback/ Position locator& Process Controller
DM13X		PA(NAMUR interface) PA(clean port) PA(classic) Stainless steel Aluminium AE / A with position indicator	DN04...DN50	4~10 bar	0~10 bar	EPDM(AB) PTFE/EPDM(EA) : -10 ~ +130°C(steam sterilization +140°Cduration of 60mins) EPDM(AD), bottom PTFE/EPDM (AE): -5 ~ +143°C (steam sterilization+150°C duration of 60mins) FKM(AF):0~+130°C(not recommended for steam)	Reference actuator material > +5°C	316L	DIN EN ISO1127/ ISO4200/ DIN 11850-2 / DIN 11866 A ASME BPE/DIN 11866 C SMS 3008	Pilot Valve/ Regulating the Cone /Manual Override for Stroke Limiting/ Proximity Switch for Position Feedback/ Position locator& Process Controller
DM13X		PA(NAMUR interface) PA(clean port) PA(classic) Stainless steel Aluminium AE / A with position indicator	DN04...DN50	4~10 bar	0~10 bar	EPDM(AB) PTFE/EPDM(EA) : -10 ~ +130°C(steam sterilization +140°Cduration of 60mins) EPDM(AD), bottom PTFE/EPDM (AE): -5 ~ +143°C (steam sterilization+150°C duration of 60mins) FKM(AF):0~+130°C(not recommended for steam)	Reference actuator material > +5°C	316L	DIN EN ISO1127/ ISO4200/ DIN 11850-2 / DIN 11866 A ASME BPE/DIN 11866 C SMS 3008	Pilot Valve/ Regulating the Cone /Manual Override for Stroke Limiting/ Proximity Switch for Position Feedback/ Position locator& Process Controller
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DM15X		PA(NAMUR interface) PA(clean port) PA(classic) Stainless steel Aluminium AE / A with position indicator	DN04...DN50	4~10 bar	0~10 bar	EPDM(AB) PTFE/EPDM(EA) : -10 ~ +130°C(steam sterilization +140°Cduration of 60mins) EPDM(AD), bottom PTFE/EPDM (AE): -5 ~ +143°C (steam sterilization+150°C duration of 60mins) FKM(AF):0~+130°C(not recommended for steam)	Reference actuator material > +5°C	316L	ISO2852 SMS3017 SMS3008 BS4825 DIN32676	Pilot Valve/ Regulating the Cone /Manual Override for Stroke Limiting/ Proximity Switch for Position Feedback/ Position locator& Process Controller
DM15X		PA(NAMUR interface) PA(clean port) PA(classic) Stainless steel Aluminium AE / A with position indicator	DN04...DN50	4~10 bar	0~10 bar	EPDM(AB) PTFE/EPDM(EA) : -10 ~ +130°C(steam sterilization +140°Cduration of 60mins) EPDM(AD), bottom PTFE/EPDM (AE): -5 ~ +143°C (steam sterilization+150°C duration of 60mins) FKM(AF):0~+130°C(not recommended for steam)	Reference actuator material > +5°C	316L	ISO2852 SMS3017 SMS3008 BS4825 DIN32676	Pilot Valve/ Regulating the Cone /Manual Override for Stroke Limiting/ Proximity Switch for Position Feedback/ Position locator& Process Controller

**Kv-values**

Port Size	DN (mm)	Nominal Diaphragm size (mm)	Kv-value water <sup>1)</sup> (m <sup>3</sup> /h)	Actuator Size (mm)	Pilot pressure (bar)		Max.operating pressure for seal material(bar)	
					min.	max.	EPDM,FKM	PTFE/EPDM,
-	DN4/6	8	0.8	40	3.5	7.0	10	10
1/4"	DN8	8	1.0	40	3.5	7.0	10	10
3/8"	DN10	8	1.0	40	3.5	7.0	10	10
1/2"	DN15	15	4.0	63	3.8	7.0	10	10
3/4"	DN20	20	5.0	63	3.8	7.0	8.0	5.0
1"	DN25	25	22.0	90	3.0	7.0	10	7.5
1 1/4"	DN32	32	30.0	90	3.0	7.0	6.5	5.5
1 1/2"	DN40	40	35.0	110	3.5	7.0	8.5	9.0
2"	DN50	50	45.5	110	3.5	7.0	5.0	3.0

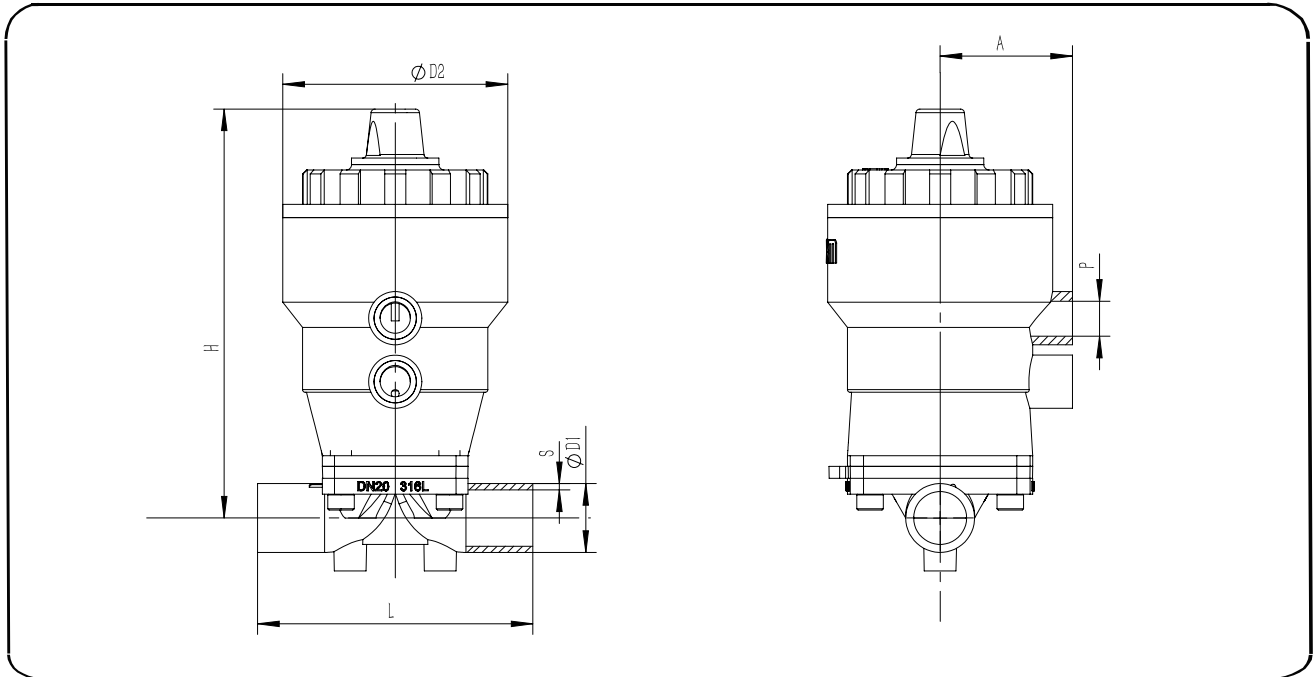
<sup>1)</sup> Measured at +20C°, 1Bar pressure at valve inlet and free outlet;  
 Remark: For low operating pressures we recommend reduced spring versions.

◆ Valve Structure



◆ Dimensions [mm]

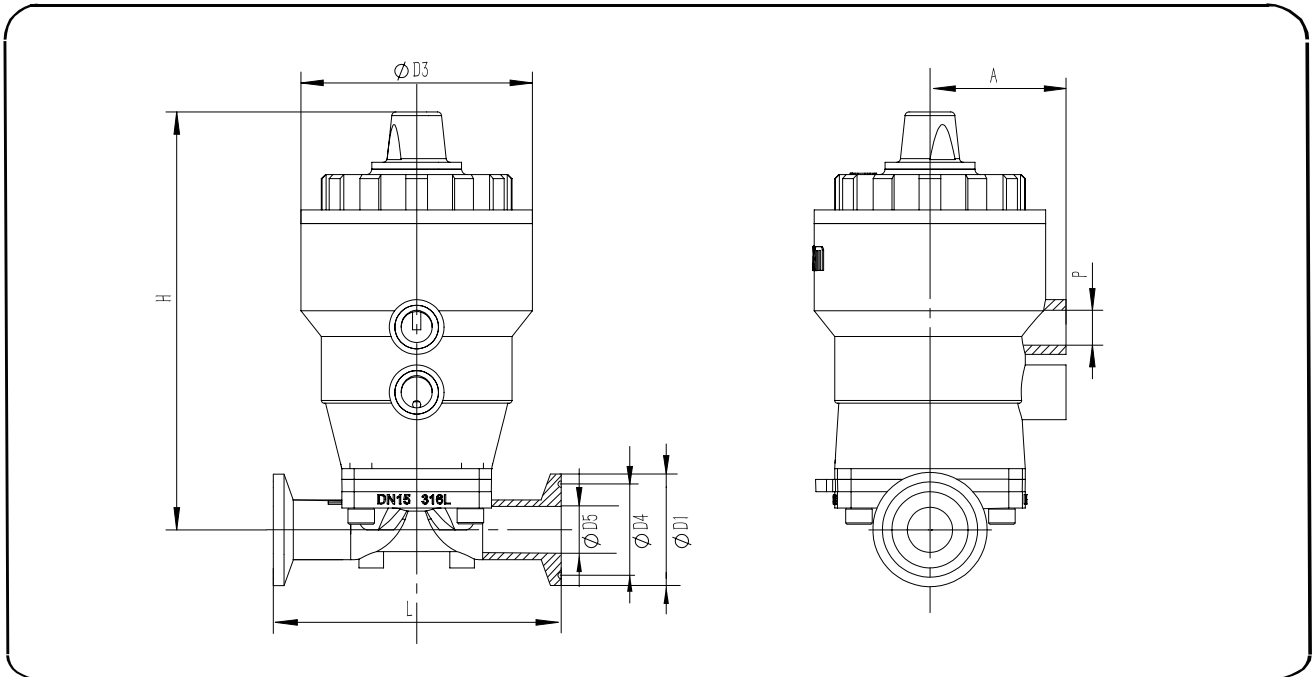
Welded ends



Port size		Actuator size	A	P	L	H	ØD3	ØD1	S	ØD1	S
[mm]	[inch]										
<b>Acc.EN ISO1127/ISO 4200 和 SMS 3008</b>							<b>EN ISO1127/ISO 4200</b>		<b>SMS 3008</b>		
8	1/4"	40	38	G1/8	90	107	56	13.5	1.6	-	-
10	3/8"	40	38	G1/8	90	107	56	17.2	1.6	-	-
15	1/2"	63	50	G1/4	110	154	85	21.3	1.6	-	-
20	3/4"	63	50	G1/4	119	157	85	26.9	1.6	-	-
25	1"	90	64	G1/4	129	193	120	33.7	2.0	25.0	1.2
32	1 1/4"	90	64	G1/4	161	199	120	42.4	2.0		-
40	1 1/2"	110	75	G1/4	161	255	140	48.3	2.0	38.0	1.2
50	2"	110	75	G1/4	192	261	140	60.3	2.0	51.0	1.2
<b>Acc. to DIN 11850</b>							<b>DIN 11850</b>				
Series 0											
4	-	40	38	G1/8	90	104	56	6.0	1.0		
6	-	40	38	G1/8	90	104	56	8.0	1.0		
Series 2											
10	3/8"	40	38	G1/8	90	107	56	18.0	1.5		
15	1/2"	63	50	G1/4	110	154	85	19.0	1.5		
20	3/4"	63	50	G1/4	119	155	85	23.0	1.5		
25	1"	90	64	G1/4	129	192	120	29.0	1.5		
40	1 1/2"	110	75	G1/4	161	254	140	41.0	1.5		
50	2"	110	75	G1/4	192	260	140	53.0	1.5		

◆ Dimensions [mm]

Tri-clamp ends



Port Size		Actuator Size	A	P	L	H	øD3	øD1	øD4	øD5	øD5	
[mm]	[inch]											
<b>Acc. ISO 2852 / SMS 3017 &amp; SMS 3008</b>											<b>ISO 2852</b>	<b>DIN 32676</b>
15	1/2"	63	50	G1/4	110	154	85	34.0	27.5	-	16.0	
20	3/4"	63	50	G1/4	119	156	85	34.0	27.5	-	20.0	
25	1"	90	64	G1/4	129	194	120	50.5	43.5	22.6	26.0	
40	1 1/2"	110	75	G1/4	161	256	140	50.5	43.5	35.6	38.0	
50	2"	110	75	G1/4	192	261	140	64.0	56.5	48.6	50.0	
<b>Acc. BS 4825</b>											<b>BS 4825</b>	
8	3/8"	40	38	G1/8	89.0	108	56	25.0	20.22	7.1		
10	1/2"	40	38	G1/8	89.0	108	56	25.0	20.22	10.3		
15	3/4"	63	50	G1/4	102.0	154	85	25.0	20.22	16.7		
25	1"	90	64	G1/4	114.0	194	120	50.5	43.5	22.2		
40	1 1/2"	110	75	G1/4	140.0	254	140	50.5	43.5	34.9		
50	2"	110	75	G1/4	159.0	261	140	64.0	56.5	47.6		