

# ANGLE SEAT VALVE



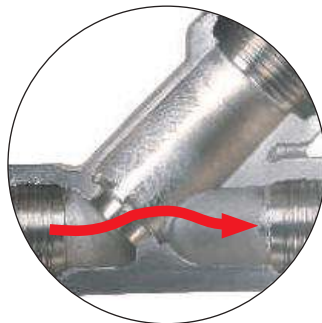
**CE**  
**PED**

## FEATURES

- Easy conversion from Single Acting to Double Acting
- Modular Design, multiple Operator option possible on the same valve Body
- Lubricated pilot Air not required
- Designed to work up to  $10^{-6}$  Torr Vacuum
- Fast acting up to 500 cycles/ hour
- Wetted Parts : CF8, SS 304. Optionally same can be provided with CF3M & SS 316L
- SS 303 inserts for Operator ports
- Operation Life > 3 Million cycles
- Pressurisation of spring chamber in case of single acting operator using appropriate 5/2 valve
- Quick operation of valve possible using appropriate 5/2 valve



- Self aligning plug ensures zero leak for every operation
- Swivel joint rotating in all 360°



- Smooth profile with minimum bend for higher flow



- Burnished valve stem with unique PTFE gland packing for lower friction, smoother operation and longer life
- No maintenance due to spring loaded V Packing

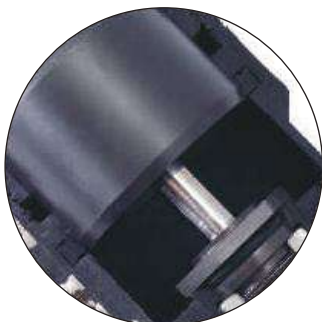


- Designed to avoid metal to metal contact, by use of longer sleeve for accommodating more gland packings, also resulting in better protection against leak
- Rugged gland packing for media and pilot air

## ANGLE SEAT VALVE DOUBLE ACTING UNIVERSAL

### FEATURES

- NC / NO / Bi Directional Operation
- Modular Design, multiple Operator option possible on the same valve Body
- Lubricated pilot Air not required
- Designed to work up to  $10^{-6}$  Torr Vacuum
- Fast acting up to 1,000 cycles/ hour
- Wetted parts : CF8, SS 304. Optionally same can be provided with CF3M & SS 316L
- Operation Life > 3 Million cycles
- SS 303 inserts for Operator ports



- Aluminium hard anodized piston
- Stationary seal, Sealing on Aluminium Piston
- Low friction
- Longer life
- Sealing on Aluminium Piston



- Transparent Dome for visual valve open indication
- Indicator dome can be replaced by Limit Switch or Positioner or Stroke Limiter



Clean Port

- Operator can be rotated 360°
- Ideally suited for area in which contamination due to exhaust air and sedimentation of particles in the operator crevices are not desired
- Corrosion resistive glass filled Nylon Operator



NAMUR Port

- Operator can be rotated 360°
- Corrosion resistive glass filled Nylon Operator
- NAMUR pad for ease of mounting Solenoid Valve

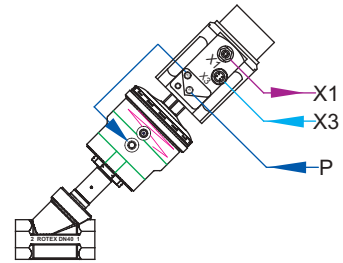
**ANGLE SEAT VALVE  
WITH INTELLIGENT POSITIONER**

**FEATURES**

- Can be adapted to Single/ Double Acting Angle Seat Valve
- Auto tuning
- User friendly settings
- INPUT  
Power 24V DC  
Signal 0/4 - 20mA/ 0 - 5/10V  
From Sensor 4 - 20mA (applicable for VL161, VL161D)
- OUTPUT  
Position Feedback 0/4 - 20mA/ 0 - 5/10V
- Suitable for Pilot Pressure 3-7 bar
- Optional one Analog Input for Process Control
- Process Signal/ Signal Transmitter Available for VL161, VL161D
- Valve full Open/ Close status Signal provided
- Ambient Temperature 0 - 55 °C
- Explosion Proof IP66 Ex nA IIC T4 Gc

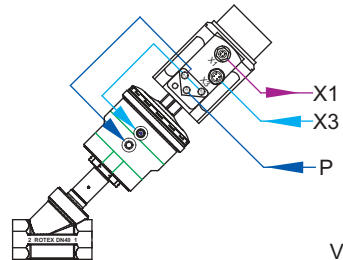
**ORDERING CODE**

- Select VL16, V16D, VL161, VL161D from accessories table  
(Refer pages 17, 21, 25)



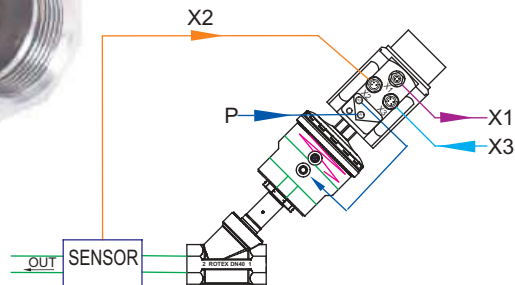
VL16

CONNECTION VL16	
X1	Position Feedback Output 0/4 - 20mA or 0 - 5/10V
X3	Input Signal 0/4 - 20mA, 0 - 5V/ 10V, Power 24V DC
P	Pilot Air Inlet 3-7 bar



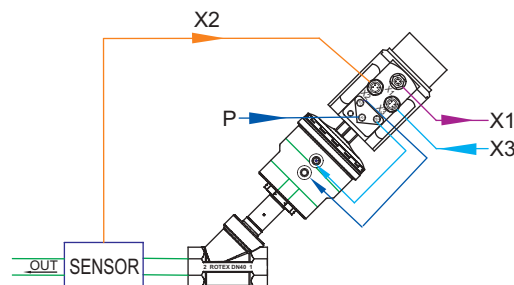
VL16D

CONNECTION VL16D	
X1	Position Feedback Output 0/4 - 20mA or 0 - 5/10V
X3	Input Signal 0/4 - 20mA, 0 - 5V/ 10V, Power 24V DC
P	Pilot Air Inlet 3-7 bar



VL161

CONNECTION VL161	
X1	Position Feedback Output 0/4 - 20mA or 0 - 5/10V
X2	From Process Control Sensor 4 - 20 mA
X3	Input Signal 0/4 - 20mA, 0 - 5V/ 10V, Power 24V DC
P	Pilot Air Inlet 3-7 bar



VL161D

CONNECTION VL161D	
X1	Position Feedback Output 0/4 - 20mA or 0 - 5/10V
X2	From Process Control Sensor 4 - 20 mA
X3	Input Signal 0/4 - 20mA, 0 - 5V/ 10V, Power 24V DC
P	Pilot Air Inlet 3-7 bar



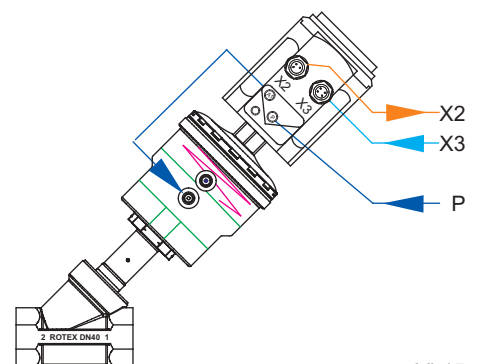
## ANGLE SEAT VALVE WITH ELECTRONIC POSITIONER

### FEATURES

- Can be adapted to Single Acting Normally Closed / Normally Open Angle Seat Valve
- Prominent Visual LED indicator in 10 steps for indication of valve opening from 0 to 100%
- User Friendly Setting
- LED indication for Manual/ Auto mode
- INPUT  
Power 24V DC  
Signal 4 - 20mA
- OUTPUT  
Position Feedback 4 - 20mA
- Suitable for Pilot Pressure 3-7 bar
- Ambient Temperature 0 - 55 °C
- Weather Proof IP66

### ORDERING CODE

- Select VL15 from accessories table  
(Refer pages 17, 21, 25)



VL15

CONNECTION VL15	
X2	Position Feedback Output 0/4 - 20mA
X3	Input Signal 4 - 20mA, Power 24V DC
P	Pilot Air Inlet 3-7 bar

## FEATURES

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- Suitable only for Normally Closed Single Acting Angle Seat Valve
- Can sense full open position of the valve
- Potential free feedback from SPDT, Micro Switch rating 3A AC, 0.5A DC

Refer to page 9 for more details

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## ORDERING CODE

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- Select PSSA50 or PSSA63 or PSSA 90 or PSSA110 from accessories table  
(Refer pages 17, 21, 25)
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## ANGLE SEAT VALVE WITH VALVE POSITION SENSOR

### FEATURES

- Suitable for Double/ Single Acting NC, NO Angle Seat Valve
- Metallic Aluminium Cast Epoxy Powder coated enclosure having IP67 protection,
- Dual cable entry for possibility to terminate solenoid in the junction box and having one cable in to limit switch box
- Up to two sensors each for Open and Close position of the valve
- For ease of cabling, Limit Switch Box Can be rotated 360°
- Sensing element : Micro Switch, WP/ Ex ia, Proximity Switch

Refer to page 10 for more details



### ORDERING CODE

- Select LS21 or LS41 or LS22 or LS42 or LS23 or LS43 from accessories table  
(Refer pages 17, 21, 25)

## SPECIFICATION

• <b>Valve type</b>	Angle Seat Valve
• <b>Function</b>	Single Acting/ Double Acting
• <b>Action</b>	NC/ NO/ Bi-Directional
• <b>Operating Pressure</b>	0 - 16 bar/ 0 - 25 bar
• <b>Ambient Temperature</b>	-10 °C to +60 °C
• <b>Media</b>	Steam, Air, Oil, Water, Fuel Gas and Liquid, Vacuum
• <b>Fluid Temperature</b>	-10 °C to +180 °C with A (PTFE Seat, NBR Seal) Optionally -10 °C to +220 °C with (PEEK Seat, VITON Seal)
• <b>Size</b>	1/2" 3/4", 1", 1 1/4", 1 1/2", 2" having inline body ports and inclined stem 2 1/2", 3" having inline body ports and perpendicular stem
• <b>Material Body, Stem and Seat Seat, Seal Operator</b>	CF8, SS 304 (optional CF3M, SS 316L) PTFE, NBR (optional PEEK, VITON) Corrosion resistive glass filled Nylon
• <b>Surface Finish</b>	< 3.2 micron, Electro polished
• <b>Port Type</b>	Threaded/ Socket Weld end/ Triclamp/ ANSI Flange/ Pipe weld
• <b>Operator</b>	SS 303 insert for port and Solenoid valve mounting
• <b>Pilot Pressure</b>	0.8 - 10 bar (Refer Pages 12 to 23)
• <b>Pilot Fluid</b>	Air, Inert Gas filtered to 50 micron

## APPLICATION

Air Drying Equipment, Autoclave, Bottling and Dispensing Equipment, Chemical and Petrochemical Industries, Coolant Control for Machine Tool, Formulation machine, Fuel, Ink and Paint dispensing, Industrial Compressor, Laundry equipment, Nuclear energy, Pollution Control equipment, Process Control application, Power generation, Paper and Pulp Industries, PSA Plants, Pharmaceutical, Steam, Sterilizer, Textile Dyeing and Drying.

## PRESSURE TEMPERATURE CHART

Angle Seat Valve intended to be installed in an area where PED is applicable, the valve should be connected to a lower fluid pressure as indicated in the table hereunder or as mentioned in the operating parameter table on pages 12, 14, 18, 22

DN	Class	Maximum Fluid Pressure kg/cm <sup>2</sup>					PED Applicable
		-10 °C To Room Temp.	50 °C	100 °C	150 °C	200 °C	
12	B40	≤25	≤25	≤25	≤25	≤25	Not Applicable
20	B40	≤25	≤25	≤25	≤25	≤25	Not Applicable
25	B40	≤25	≤25	≤25	≤25	≤25	Not Applicable
32	B25	24.5	23.2	20.8	19.0	17.6	Yes
40	B20	19.6	19.0	16.7	15.2	14.1	Yes
50	B25	24.5	23.7	20.8	19.6	17.6	Yes
65	B40	≤25	≤25	≤25	≤25	≤25	Yes
80	B40	≤15	≤15	≤15	≤15	≤15	Yes



## STROKE LIMITER

### FEATURES

- Ideal for application demanding preset flow adjustment
- Can be retrofitted at site
- Adjust stroke for Valve opening from 0% to 100%
- Can be adapted to Single/ Double acting Angle Seat Valve

### SPECIFICATION

- Stainless Steel 304 bolt

### ORDERING CODE

SL50	Stroke Limiter For Ø50 Operator
SL63	Stroke Limiter For Ø63 Operator
SL90	Stroke Limiter For Ø90 Operator
SL110	Stroke Limiter For Ø110 Operator



## POSITION SENSOR FOR SINGLE ACTING NORMALLY CLOSED VALVE

### FEATURES

- Can be retrofitted at site
- Can be installed on single acting Normally Closed Valve function F1 or F6

### SPECIFICATION

Positioning Sensor for single acting Normally Closed Valve

- **Type** : PSSA
- **Ambient Temperature** : -10 °C to 60 °C
- **Element type** : Micro Switch rating 3Amp
- **Cable entry** : Suitable for 9 mm OD cable
- **Contact** : SPDT

### ORDERING CODE

PSSA 50	Suitable for Ø50 Operator, Function F1 or F6
PSSA 63	Suitable for Ø63 Operator, Function F1 or F6
PSSA 90	Suitable for Ø90 Operator, Function F1 or F6
PSSA 110	Suitable for Ø110 Operator, Function F1 or F6



**POSITION SENSOR BOX** (Should be ordered along with Valve)

**FEATURES**

- Adjustable Sensing elements
- Suitable for Single/ Double acting Normally Close/ Open valve

**SPECIFICATION**

- **Enclosure Material** : Aluminium Cast Powder Coated
- **Protection** : Weather Proof, IP67  
Optionally Weather Proof IP67 with Ex ia sensing Element
- **Sensing Element** : Micro Switch/ Proximity Sensor
- **Cable Entry** : 2 X M25 X 1.5



**SENSING ELEMENT**

Model	LS-21	LS-41
Make	Honey well	
No.	2 nos. (One each for Open & Close position)	4 nos. (Two each for Open & Close position)
Type of Element	Micro switch	
Rating	5 Amp 250V AC, 0.1 A 48V DC	

Model	LS-22	LS-42
Make	Pepperl+Fuchs	
No.	2 nos. (One each for Open & Close position)	4 nos. (Two each for Open & Close position)
Type of Element	Proximity switch (EEx ia) NJ2-V3-N	
Rating	8V DC, 3mA, NC	

Model	LS-23	LS-43
Make	Pepperl+Fuchs	
No.	2 nos. (One each for Open & Close position)	4 nos. (Two each for Open & Close position)
Type of Element	Proximity Switch NBB3-V3-Z4	
Rating	10-60V, 100mA, NO	

## ANGLE SEAT VALVE ACCESSORIES

**SOLENOID VALVE** (Can be ordered Separately)

### APPROVALS



**SPECIFICATION** (Refer pages 16, 20 & 24 for Solenoid Valve code)

#### VALVE

- **Pressure** : 10 bar
- **Port connection** : 1/4" BSP
- **Body Material** : Aluminium hard Anodised
- **Seat Seal** : NBR

#### SOLENOID

- **Voltage Current** : 24V DC, 110V 50-60 Hz, 230V 50-60 Hz
- **Power** : 8W/ 2W/ 1W
- **Protection** : Weather Proof IP67  
Explosion Proof Ex d, Ex ia, Ex e mb, IIC T6, IP67
- **Cable Entry** : Pg 9, M20X1.5, 1/2" NPT, M25X1.5

VALVE TYPE	POWER	FUNCTION		PORT CONNECTION		WEATHER PROOF, IP67			EXPLOSION PROOF IIC, IP 66/ IP67					
		F1/F2/F6	F4	STANDARD P1	NAMUR P2	PLUG IN	PLUG IN	TERMINAL BOX	Ex d		Ex ia		Ex e mb	
						22	22S	16/19	37/39	87	66	67	65 CR	58
	05	5	✓		✓	✓		✓						
	04	8	✓		✓	✓			✓	✓	✓			✓
	16	8	✓		✓	✓		✓	✓	✓	✓			✓
	17	2	✓		✓	✓		✓	✓	✓				✓
	18	1	✓		✓							✓	✓	
	06	8		✓	✓	✓		✓	✓	✓	✓			✓
	12	2		✓	✓	✓		✓	✓	✓				✓
	13	1		✓	✓							✓	✓	
	07	8		✓	✓	✓		✓	✓	✓	✓			✓
	14	2		✓	✓	✓		✓	✓	✓				✓
	15	1		✓	✓							✓	✓	
	01	8	✓		✓	✓		✓	✓	✓	✓			✓
	02	8	✓	✓	✓	✓		✓	✓	✓	✓			✓
	08	2	✓	✓	✓	✓		✓	✓	✓				✓
	10	1	✓	✓	✓							✓	✓	
	03	8	✓	✓	✓	✓		✓	✓	✓	✓			✓
	09	2	✓	✓	✓	✓		✓	✓	✓				✓
	11	1	✓	✓	✓							✓	✓	

VALVE TYPE	BASIC MODEL
01	30106
02	51424
03	57450
04	30125
05	305
06	51440A

VALVE TYPE	BASIC MODEL
07	57440A
08	51424LW
09	57450LW
10	51424IS
11	57450IS
12	P5003 (51440LW)

VALVE TYPE	BASIC MODEL
13	I5005 (51440IS)
14	P5006(57440LW)
15	I5006 (57440IS)
16	31119
17	P3001(31119LW)
18	I3003 (31119IS)

VALVE TYPE	BASIC MODEL
19	P3004 (30125LW)
20	30106-B5
21	30138
23	30106LW
24	30146
25	51450IS

VALVE TYPE	BASIC MODEL
26	51424-SL

**OPERATING PARAMETERS**

DN Operator	Function	DN	Actuator Ø	Connection	Kv m <sup>3</sup> /h	Single Acting Normally Closed Bi-Directional					
						Pressure Above Plug			Pressure below Plug		
						Pilot Pressure	Fluid Pressure (bar)		Pilot Pressure	Fluid Pressure (bar)	
							Up to 10 bar	AV, AW, AP, AF #300		AK, AF #150	Up to 10 bar
12050V01	F1	12	50	1/2"	5.8	4.6	0	0	4.6	0	0
						5	16	16	4.4	16	16
						5.4	25		4.4	25	
20050V01	F1	20	50	3/4"	10.8	4.6	0	0	4.6	0	0
						5.5	16	16	4	8	8
						6	25				
20063V01	F6	20	63	3/4"	10.8	5.4	0	0	5.4	0	0
						5.6	16	16	4.9	16	16
						5.7	25		4.4	25	
25050V01	F1	25	50	1"	21	4.6	0	0	4.6	0	0
						6.8	16	16	4.2	5	5
						8.2	25				
25063V01	F6	25	63	1"	21	5.4	0	0	5.4	0	0
						5.6	16	16	4.9	16	16
						5.8	25				
32063V01	F6	32	63	1 1/4"	31	5.2	0	0	5.2	0	0
						6.2	12	16	4.4	12	12
						7.3	25				
32090V02	F1	32	90	1 1/4"	31	2.2	0	0	2.2	0	0
						3.6	16	16	2.2	2	2
						4.4	25				
40063V01	F1	40	63	1 1/2"	49	3	0	0	3	0	0
						8.2	16	16	2	2	2
						10	21				
40063V01	F6	40	63	1 1/2"	49	5.4	0	0	5.4	0	0
						8.4	12	12	4.8	4	4
						10	18				
40090V02	F1	40	90	1 1/2"	49	2.3	0	0	2.3	0	0
						4.2	16	16	1.4	1.4	1.4
						5.3	25				
40090V02	F6	40	90	1 1/2"	49	7	0	0	7	0	0
						7.4	16	16	6.2	14	14
						7.7	25				

Note :

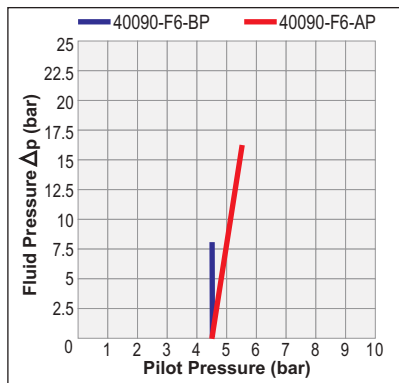
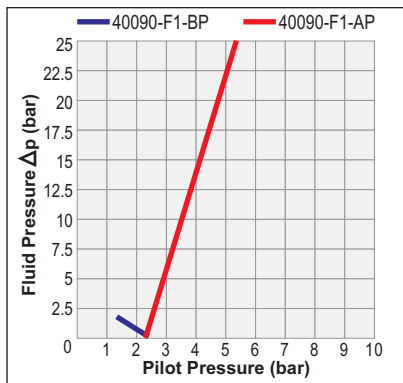
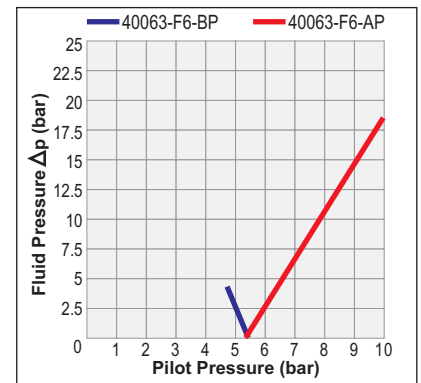
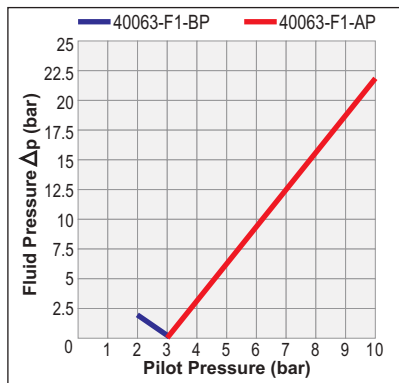
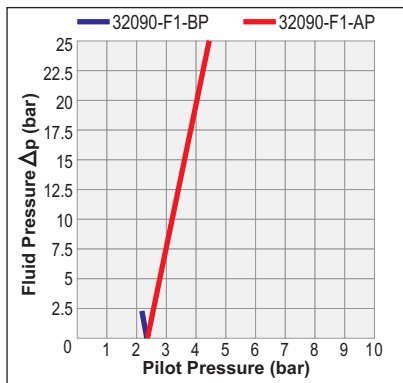
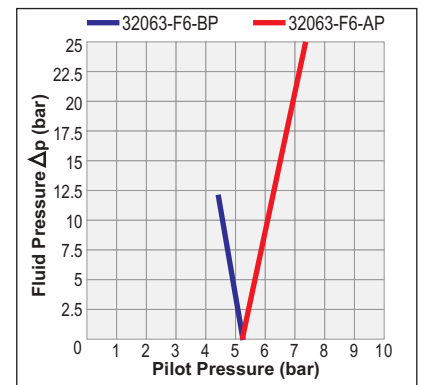
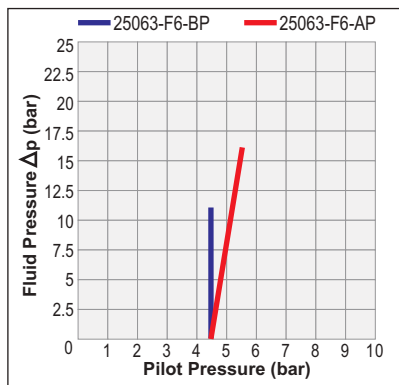
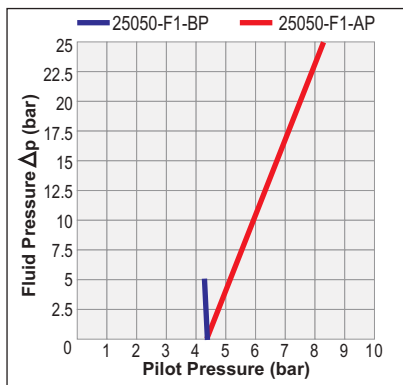
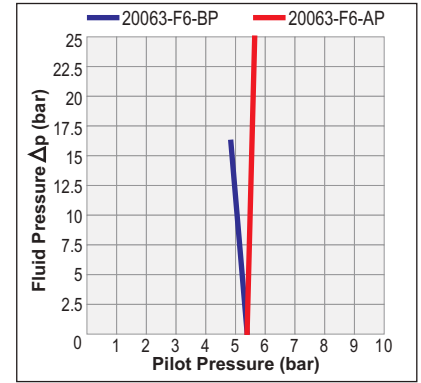
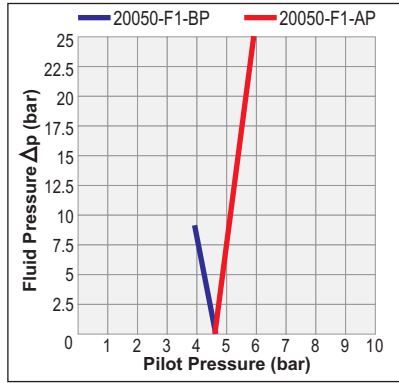
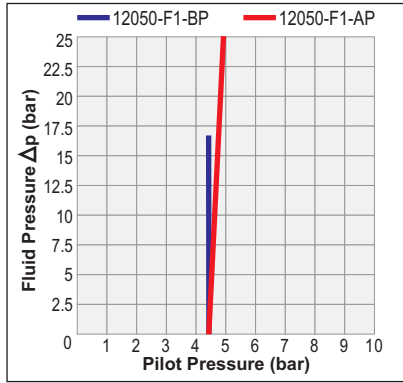
1. For PED certified valves, maximum fluid pressure is limited to minimum value specified in pressure temperature chart on page 8 or table above
2. Valve with F5 function using 5/2 solenoid valve should be replaced by valve with F1 function operated by 5/2 valve
3. Valve with F3 function should be replaced by selecting suitable valve meeting operating parameter of main fluid pressure above, below seat and pilot pressure



# ANGLE SEAT VALVE

## F1/ F6 SINGLE ACTING NORMALLY CLOSED

### OPERATING PARAMETERS



**OPERATING PARAMETERS**

DN Operator	Function	DN	Actuator Ø	Connection	Kv m <sup>3</sup> /h	Single Acting Normally Closed Bi-Directional					
						Pressure Above Plug			Pressure below Plug		
						Pilot Pressure	Fluid Pressure (bar)		Pilot Pressure	Fluid Pressure (bar)	
							Up to 10 bar	AV, AW, AP, AF #300		AK, AF #150	Up to 10 bar
50063V01	F1	50	63	2"	68	2.8	0	0			
						7.6	10	10			
						10	14	14			
50090V02	F1	50	90	2"	68	2.3	0	0			
						5.8	16	16			
						7.8	25				
50090V02	F6	50	90	2"	68	6	0	0	6	0	0
						6.8	14	16	4.5	6	6
						7.5	25				
50110V02	F1	50	110	2"	68	1.4	0	0			
						4.2	16	16			
						5.8	25				
50110V02	F6	50	110	2"	68	6	0	0	6	0	0
						6.6	16	16	5.4	12	12
						6.9	25				
65090V02	F1	65	90	2 1/2"	120	2.2	0	0			
						8.5	12	12			
						10	14				
65110V02	F1	65	110	2 1/2"	120	1.4	0	0			
						6	16	16			
						8.6	25				
65110V02	F6	65	110	2 1/2"	120	4.2	0	0	4.2	0	0
						7.2	12	12	2.2	5	5
						10	23				
80110V02	F1	80	110	3"	185	1.6	0	0			
						6.6	10	10			
						10	16				
80110V02	F6	80	110	3"	185	4	0	0	4	0	0
						6.4	8	8	1	4	4
						10	19				

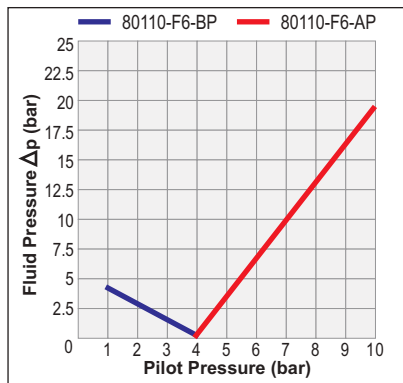
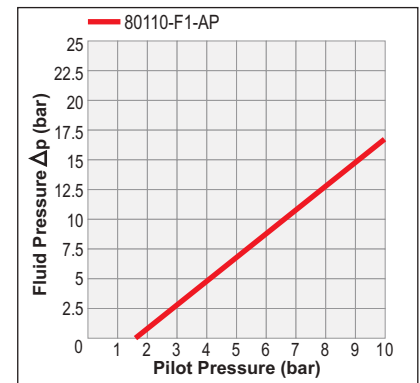
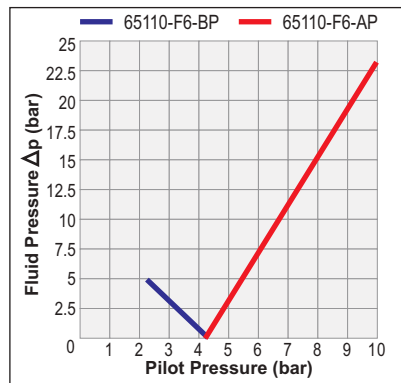
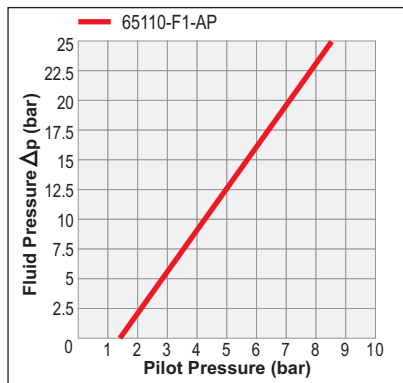
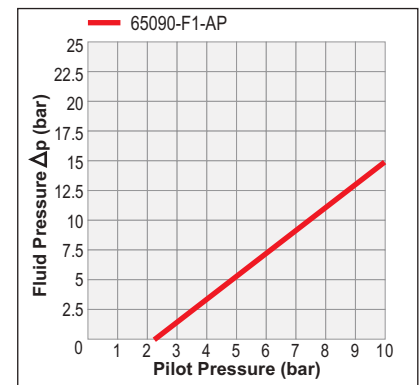
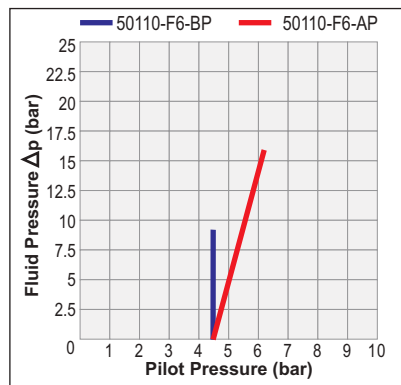
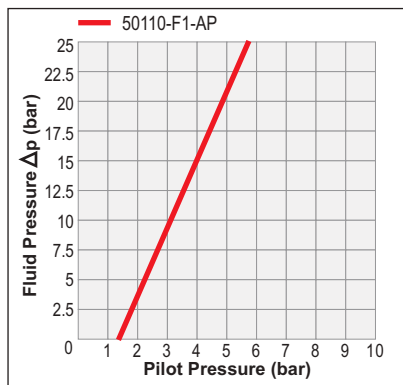
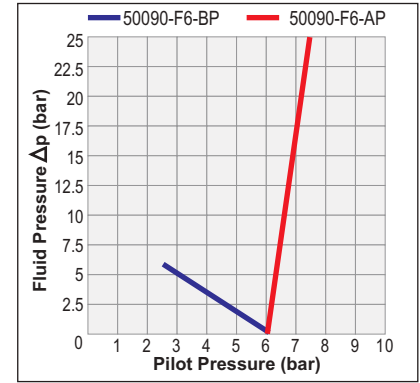
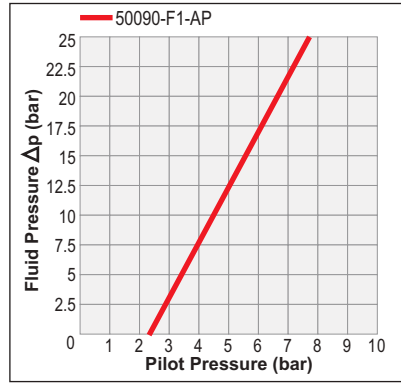
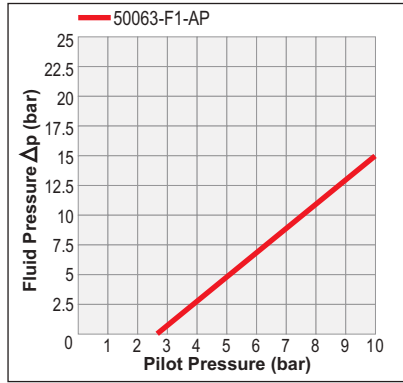
**Note :**

1. For PED certified valves, maximum fluid pressure is limited to minimum value specified in pressure temperature chart on page 8 or table above
2. Valve with F5 function using 5/2 solenoid valve should be replaced by valve with F1 function operated by 5/2 port valve
3. Valve with F3 function should be replaced by selecting suitable valve meeting operating parameter of main fluid pressure above, below seat and pilot pressure

# ANGLE SEAT VALVE

## F1/ F6 SINGLE ACTING NORMALLY CLOSED

### OPERATING PARAMETERS



**ORDERING CODE**

1	2 - 3	4	5	6	7	8	9	10
PORT TYPE	DN OPERATOR - FUNCTION	PILOT	SEAL SEAT	PORT SIZE	BODY	SOLENOID VALVE	ACCESSORIES	MEDIA
AV	12050V01 - F1	P1	S17	4G	B14	02 - 37 - C	PSSA50	※

1		2-3							
PORT TYPE		DN OPERATOR-FUNCTION							
CODE	DESCRIPTION	DN OPERATOR -FUNCTION	DN	OPERATOR	INLET	DN OPERATOR -FUNCTION	DN	OPERATOR	INLET
③ AV	Threaded Port	12050V01-F1	12	Ø50	Bi-Directional	50063V01-F1	50	Ø63	Above Plug
③ AF	Flanged ANSI # 150	20050V01-F1	20	Ø50	Bi-Directional	⑩ 50090V02-F1	50	Ø90	Above Plug
③ AF300	Flanged ANSI # 300	20063V01-F6	20	Ø63	Bi-Directional	⑩ 50090V02-F6	50	Ø90	Bi-Directional
③ AW	Weld Neck	25050V01-F1	25	Ø50	Bi-Directional	50110V02-F1	50	Ø110	Above Plug
③ AP	Pipe Weld	25063V01-F6	25	Ø63	Bi-Directional	50110V02-F6	50	Ø110	Bi-Directional
③ APM	Pipe Weld ISO1127	32063V01-F6	32	Ø63	Bi-Directional	⑩ 65090V02-F1	65	Ø90	Above Plug
③ AK	Tri Clamp	32090V02-F1	32	Ø90	Bi-Directional	65110V02-F1	65	Ø110	Above Plug
② IV	Inline Threaded	40063V01-F1	40	Ø63	Bi-Directional	65110V02-F6	65	Ø110	Bi-Directional
② IF	Inline Flanged # 150	40063V01-F6	40	Ø63	Bi-Directional	80110V02-F1	80	Ø110	Above Plug
② IF300	Inline Flanged # 300	⑩ 40090V02-F1	40	Ø90	Bi-Directional	80110V02-F6	80	Ø110	Bi-Directional
		⑩ 40090V02-F6	40	Ø90	Bi-Directional				

4	
PILOT	
CODE	DESCRIPTION
P1	Clean Port
P2	NAMUR

5		
SEAL/ SEAT		
CODE	SEAL	SEAT
① ※	NBR	PTFE
S17	VITON	PEEK

6					
⑫ ④ PORT SIZE					
SIZE	BSP	NPT	SIZE	BSP	NPT
1/2"	4G	4R	1 1/2"	12G	12R
3/4"	6G	6R	2"	16G	16R
1"	8G	8R	2 1/2"	20G	20R
1 1/4"	10G	10R	3"	24G	24R

7	
BODY (INTERNAL)	
CODE	DESCRIPTION
B13	CF8 (SS 304)
B14	CF3M (SS 316L)

8						
SOLENOID VALVE ( A B C) Refer to page 11 for more details						
A		B			C	
CODE	VALVE MODEL	CODE	COIL CODE		CODE	VOLTAGE
① ※	Solenoid Valve Not Required	① ※	Solenoid Valve Not Required		※ ①	Solenoid Valve Not Required
01	3/2 NAMUR Type 30106	Weather Proof IP67			A	24V DC, 8 WATT
02	5/2 3/2 Convertible Single Solenoid NAMUR Type 51424	22	Plug In as per DIN 43650B		A-01	24V DC, 8 WATT, ATEX
03	5/2 3/2 Convertible Double Solenoid NAMUR Type 57450	25	Plug In as per DIN 43650A		A-01B	24V DC, 8 WATT, INDIAN+ATEX
04	3/2 Body Ported Type 30125	22S	Plug In as per DIN 43650B		B	230V 50Hz, 6 WATT
05	3/2 Direct Mount Type 305	⑥ 19	Coil With Integral Terminal Box, Cable Entry M20 X1.5		C	110V 50Hz, 6 WATT
⑦ 08	5/2 3/2 Convertible Single Solenoid NAMUR Low Power Type 51424LW2	Flame Proof IP67			C-01	110V 50Hz, 6 WATT, ATEX
⑦ 09	5/2 3/2 Convertible Double Solenoid Low Power NAMUR Type 57450LW2	39	Ex d, IIC, T4, Cable Entry M20 X 1.5		D ⑦	24V DC, 2 WATT
⑧ 10	5/2 3/2 Convertible Single Solenoid NAMUR Valve With Intrinsically Safe Coil Type 51424IS	37	Ex d, IIC, T4, Cable Entry 1/2" NPT (F)		E ⑧	24V DC Ex ia
⑧ 11	5/2 3/2 Convertible Double Solenoid NAMUR Valve With Intrinsically Safe Coil Type 57450IS	⑥ 87MS	Ex d, IIC, T6, IIC, T6, Cable Entry M20X1.5		E-01⑧	24V DC, Ex ia, IEC Ex,ATEX
		⑥ 58MS	Ex e mb, IIC, T6, Cable Entry M20X1.5		F	24V 50Hz, 6 WATT
		⑧ 65CR	Ex ia IIC, T6, Plug In as per DIN 43650A		G	24V DC, 8 WATT, SIZE III
		⑥ 67MS	Ex ia, Integral Terminal Box, IIC, T6, Cable Entry M20 X 1.5		H	24V DC, 1 WATT
		⑧ 66MS	Ex ia, IIC, T6, With Booster Circuit, Integral Terminal Box, Cable Entry M20 X 1.5		H-01	24V DC, 1 WATT, ATEX

Note : Contact Rotex for ordering code of solenoid valve having approval other than 

**ORDERING EXAMPLE (Solenoid Valve)**

- 01 22 A >>> 3/2 NAMUR valve type 01 (basic model 30106), Aluminium Body, 1/4" BSP, with 24V DC DIN plug, IP67 coil
- 12 67NS E >>> 5/2, 3/2 Convertible Double Solenoid NAMUR valve type 12 (basic model 57450IS) Aluminium Body, 1/4" Port, with Intrinsically Safe, Ex ia IIC T6, IP67 Solenoid
- 08 37 D >>> 5/2 3/2 Convertible Single Solenoid NAMUR valve type 08 (basic model 51424) Aluminium Body, 1/4" BSP, with Explosion Proof Ex d IIC T6, IP67 Coil



## ANGLE SEAT VALVE

### F1/ F6 SINGLE ACTING NORMALLY CLOSED

### ORDERING CODE

9		10	
ACCESSORIES (refer to page 9 & 10 for more details)		Sensing Element Qty.	
CODE	DESCRIPTION	OPEN	CLOSE
① ×	Transparent Indicating Dome	Nil	Nil
PSSA50	Microswitch, SPDT, 3 AMP, NC/ NO for Operator Ø50	One	Nil
PSSA63	Microswitch, SPDT, 3 AMP, NC/ NO for Operator Ø63	One	Nil
PSSA90	Microswitch, SPDT, 3 AMP, NC/ NO for Operator Ø90	One	Nil
PSSA110	Microswitch, SPDT, 3, AMP, NC/ NO for Operator Ø110	One	Nil
SL50	Stroke Limiter for Operator Ø50		
SL63	Stroke Limiter for Operator Ø63		
SL90	Stroke Limiter for Operator Ø90		
SL110	Stroke Limiter for Operator Ø110		
LS21	Microswitch, 5 Amp 250V AC, 0.1 A 48V DC, SPDT, Make : Honeywell	One	One
LS41	Microswitch, 5 Amp 250V AC, 0.1 A 48V DC, SPDT, Make : Honeywell	Two	Two
LS22	Proximity Switch EEx ia, Type NJ2-V3-N, 8V DC, 3 mA, NC, Make: PEPPERL + FUCHS	One	One
LS42	Proximity Switch EEx ia, Type NJ2-V3-N, 8V DC, 3 mA, NC, Make: PEPPERL + FUCHS	Two	Two
LS23	Proximity Switch Weather Proof, 10V - 60V, 100 mA, NO	One	One
LS43	Proximity Switch Weather Proof, 10V - 60V, 100 mA, NO	Two	Two
⑨ VL15	Electronic Positioner, with feedback, single acting valve		
⑨ VL16	Intelligent Positioner, with feedback, single acting valve		
⑨ VL161	Intelligent Positioner, with feedback and process control Analog Input single acting valve		

10	
⑪ MEDIA	
CODE	DESCRIPTION
×	Above Plug- Air, Inert Gas
×	Below Plug- Air, Inert Gas, Oil, Water

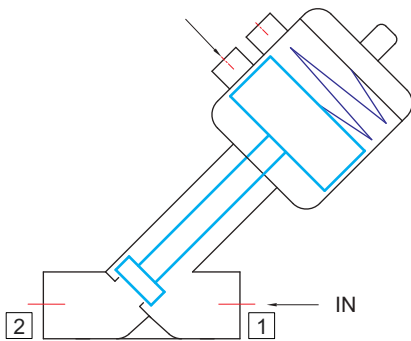
#### Note

- ① Do not specify when opted
- ② DN Operator can be 65090/ 65110/ 80110
- ③ DN Operator can be other than 65090/ 65110/ 80110
- ④ Should be opted only for port type AV & IV
- ⑤ Solenoid valve type 6, 7, 16, 17, 18 cannot be fitted on Valve
- ⑥ For 1/2" NPT Cable Entry, replace 19/ 87MS/ 58MS/ 67MS/ 66MS with 16/ 87NS/ 58NS/ 67NS/ 66NS

- ⑦ Valve type 08 & 09 can be supplied with coil voltage type D only
- ⑧ Select coil code 65CR/ 67MS/ 67NS and voltage E
- ⑨ Solenoid valve should not be opted
- ⑩ Pilot P1 not available.
- ⑪ Select media code other than default Media.
- ⑫ Port types Can be supplied with Port Size Suffix "F" for AF/IF, Suffix "P" for AP/APM, suffix "T" for AK

### RECOMMENDED INSTALLATION

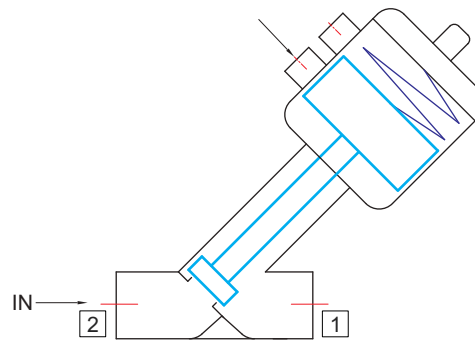
#### PRESSURE ABOVE SEAT



#### MEDIA

Gas, Steam, Air, Vacuum, LPG

#### PRESSURE BELOW SEAT



#### MEDIA

Gas, Air, Water, Vacuum, Oil, Liquid, Fuel

### ORDERING EXAMPLE

#### AV25050V01-F1-P1-4G-B13

25NB Single Acting Normally Closed Angle Seat valve having 1" BSP port connection, PTFE seat, Body and Wetted part CF8, SS 304 and Operator 50, Clean port, seals and O ring NBR

#### AV40090V02-F6-P2-S17-12R-B14-08-16-D-PSSA90

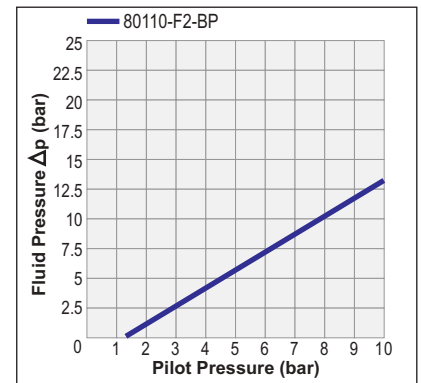
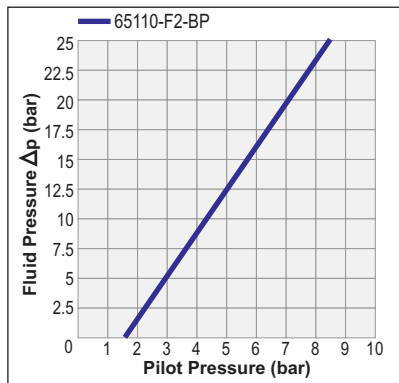
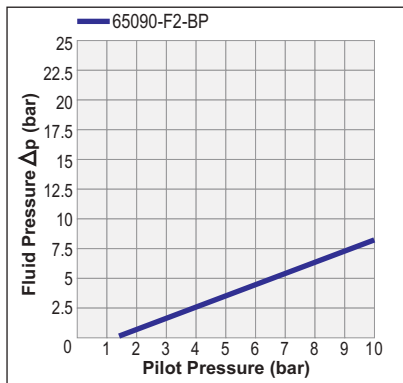
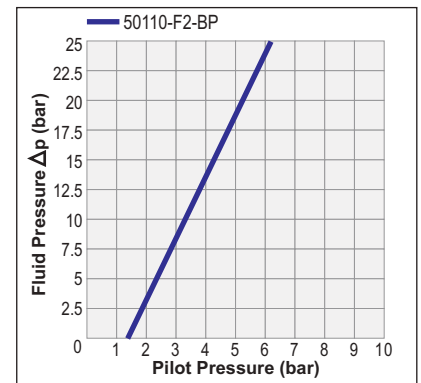
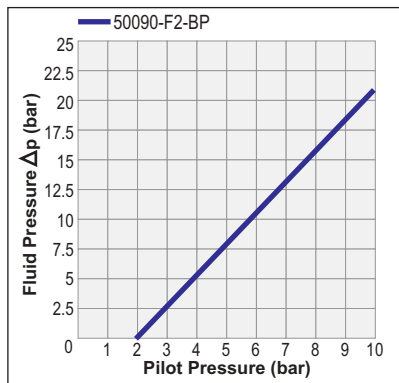
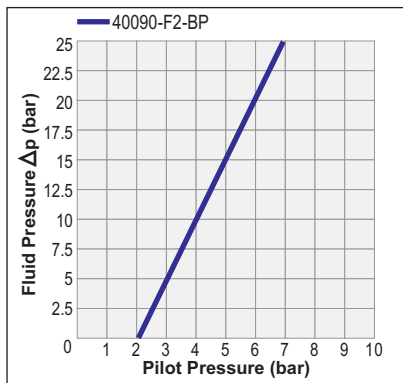
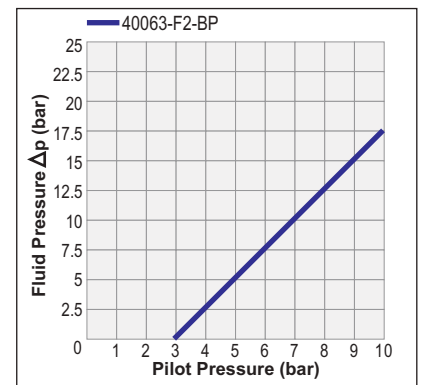
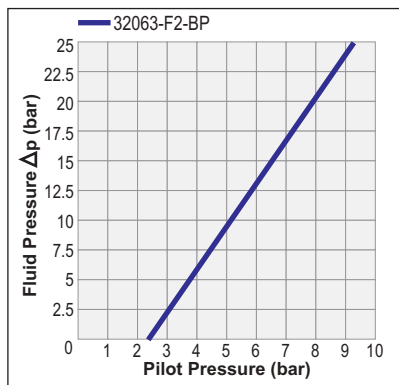
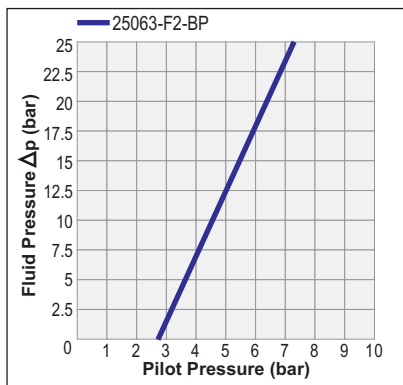
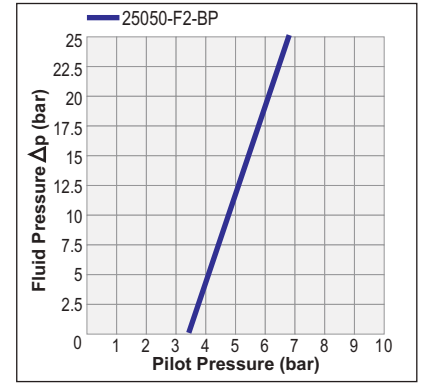
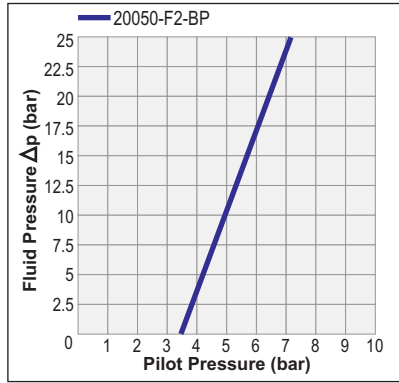
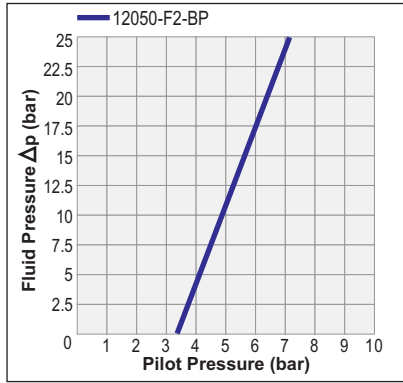
40NB Single Acting Normally Closed Angle Seat Valve having 1 1/2" NPT threaded port connection, PEEK Seat, Body and wetted parts CF3M, SS 316L, Operator 90 NAMUR Ports, Seals and O ring VITON, along with Position Sensor Type PSSA90 having Cable entry PG9, SPDT Micro switch 3 AMP for sensing Open Position of the valve, with 5/2 3/2 Convertible Low Power Solenoid Valve, Body Material Aluminium Hard Anodised, Low Power Weather Proof Solenoid having integral Terminals Junction Box, Cable Entry M20X1.5, Voltage 24V DC, Power 2 Watt, Type 0816MSD

**OPERATING PARAMETERS**

DN Operator	DN	Actuator Ø	Connection	Kv m <sup>3</sup> /h	Single Acting Normally Open		
					Pressure Below Plug		
					Pilot Pressure	Fluid Pressure (bar)	
						Up to 10 bar	AV, AW, AP, AF #300
12050V01	12	50	1/2"	5.8	3.4	0	0
					5.8	16	16
					7.1	25	
20050V01	20	50	3/4"	10.8	3.5	0	0
					5.8	16	16
					7.1	25	
25050V01	25	50	1"	21	4.6	0	0
					6	12	12
					7.8	25	
25063V01	25	63	1"	21	2.8	0	0
					5.6	16	16
					7.2	25	
32063V01	32	63	1 1/4"	31	2.4	0	0
					6.8	16	16
					9.2	25	
40063V01	40	63	1 1/2"	49	3	0	0
					7	10	10
					10	17	
40090V02	40	90	1 1/2"	49	2	0	0
					5.2	16	16
					7	25	
50090V02	50	90	2"	68	2	0	0
					6.7	12	12
					10	20	
50110V02	50	110	2"	68	1.4	0	0
					4.4	16	16
					6.1	25	
65090V02	65	90	2 1/2"	120	1.4	0	0
					5.8	4	4
					10	7.8	
65110V02	65	110	2 1/2"	120	1.6	0	0
					6	12	12
					8.5	25	
80110V02	80	110	3"	185	1.4	0	0
					6.8	8	8
					10	13	

Note : For PED certified valves, maximum fluid pressure is limited to minimum value specified in pressure temperature chart on page 8 or table above

OPERATING PARAMETERS



### ORDERING CODE

1	2	3	4	5	6	7	8	9	10
PORT TYPE AF300	DN-OPERATOR 25050V01	FUNCTION F2	PILOT P1	SEAL SEAT S17	PORT SIZE 4G	BODY B14	SOLENOID VALVE 05 - 22S - B	ACCESSORIES SL50	10 MEDIA ※

1 PORT TYPE	
CODE	DESCRIPTION
3 AV	Threaded Port
3 AF	Flanged ANSI # 150
3 AF300	Flanged ANSI # 300
3 AW	Weld Neck
3 AP	Pipe Weld
3 APM	Pipe Weld ISO1127
3 AK	Tri Clamp
2 IV	Inline Threaded
2 IF	Inline Flanged # 150
2 IF300	Inline Flanged # 300

2 DN-OPERATOR						
CODE	DN	OPERATOR	CODE	DN	OPERATOR	
12050V01	12	Ø50	10 40090V02	40	Ø90	
20050V01	20	Ø50	10 50090V02	50	Ø90	
25050V01	25	Ø50	50110V02	50	Ø110	
25063V01	25	Ø63	10 65090V02	65	Ø90	
32063V01	32	Ø63	65110V02	65	Ø110	
40063V01	40	Ø63	80110V02	80	Ø110	

3 FUNCTION	
CODE	DESCRIPTION
F2	SINGLE ACTING NO

4 PILOT	
CODE	DESCRIPTION
P1	Clean Port
P2	NAMUR

5 SEAL/ SEAT		
CODE	SEAL	SEAT
1 ※	NBR	PTFE
S17	VITON	PEEK

6 12 4 PORT SIZE					
SIZE	BSP	NPT	SIZE	BSP	NPT
1/2"	4G	4R	11/2"	12G	12R
3/4"	6G	6R	2"	16G	16R
1"	8G	8R	2 1/2"	20G	20R
1 1/4"	10G	10R	3"	24G	24R

7 BODY (INTERNAL)	
CODE	DESCRIPTION
B13	CF8 (SS 304)
B14	CF3M (SS 316L)

8 SOLENOID VALVE ( A B C) Refer to page 11 for more details						
A		B			C	
CODE	VALVE MODEL	CODE	COIL CODE		CODE	VOLTAGE
1 ※	Solenoid Valve Not Required	1 ※	Solenoid Valve Not Required		※ 1	Solenoid Valve Not Required
01	3/2 NAMUR Type 30106	Weather Proof IP67				
02	5/2 3/2 Convertible Single Solenoid NAMUR Type 51424	22	Plug In as per DIN 43650B		A	24V DC, 8 WATT
03	5/2 3/2 Convertible Double Solenoid NAMUR Type 57450	25	Plug In as per DIN 43650A		A-01	24V DC, 8 WATT, ATEX
04	3/2 Body Ported Type 30125	22S	Plug In as per DIN 43650B		A-01B	24V DC, 8 WATT, INDIAN+ATEX
05	3/2 Direct Mount Type 305	6 19	Coil With Integral Terminal Box, Cable Entry M20 X1.5		B	230V 50Hz, 6 WATT
7 08	5/2 3/2 Convertible Single Solenoid NAMUR Low Power Type 51424LW2	Flame Proof IP67				
7 09	5/2 3/2 Convertible Double Solenoid Low Power NAMUR Type 57450LW2	39	Ex d, IIC, T4, Cable Entry M20 X 1.5		C	110V 50Hz, 6 WATT
8 10	5/2 3/2 Convertible Single Solenoid NAMUR Valve With Intrinsically Safe Coil Type 51424IS	37	Ex d, IIC, T4, Cable Entry 1/2" NPT (F)		C-01	110V 50Hz, 6 WATT, ATEX
8 11	5/2 3/2 Convertible Double Solenoid NAMUR Valve With Intrinsically Safe Coil Type 57450IS	6 87MS	Ex d, IIC, T6, IIC, T6, Cable Entry M20X1.5		D	24V DC, 2 WATT
		6 58MS	Ex e mb, IIC, T6, Cable Entry M20X1.5		E	24V DC Ex ia
		8 65CR	Ex ia IIC, T6, Plug In as per DIN 43650A		E-01 8	24V DC, Ex ia, IEC Ex, ATEX
		6 67MS	Ex ia, Integral Terminal Box, IIC, T6, Cable Entry M20 X 1.5		F	24V 50Hz, 6 WATT
		8			G	24V DC, 8 WATT, SIZE III
		6 66MS	Ex ia, IIC, T6, With Booster Circuit, Integral Terminal Box, Cable Entry M20 X 1.5		H	24V DC, 1 WATT
		8			H-01	24V DC, 1 WATT, ATEX

### ORDERING EXAMPLE (Solenoid Valve)

- 01 22 A >>> 3/2 NAMUR valve type 01 (basic model 30106) Aluminium Body, 1/4" BSP, 24V DC with DIN plug coil, IP67
- 12 67NS E >>> 5/2, 3/2 Convertible Double Solenoid NAMUR valve type 12 (basic model 57450IS) Aluminium Body, 1/4" Port, with Intrinsically Safe, Ex ia IIC T6, IP67 Solenoid
- 08 37 D >>> 5/2 3/2 Convertible Single Solenoid NAMUR valve type 08 (basic model 51424) Aluminium Body, 1/4" BSP, with Explosion Proof Ex d IIC T6, IP67 Coil

ORDERING CODE

9		10	
ACCESSORIES (refer to page 9 & 10 for more details)		Sensing Element Qty.	
CODE	DESCRIPTION	OPEN	CLOSE
① ×	Transparent Indicating Dome		
SL50	Stroke Limiter for Operator Ø50		
SL63	Stroke Limiter for Operator Ø63		
SL90	Stroke Limiter for Operator Ø90		
SL110	Stroke Limiter for Operator Ø110		
LS21	Microswitch, 5 Amp 250V AC, 0.1 A 48V DC, SPDT, Make : Honeywell	One	One
LS41	Microswitch, 5 Amp 250V AC, 0.1 A 48V DC, SPDT, Make : Honeywell	Two	Two
LS22	Proximity Switch EEx ia, Type NJ2-V3-N, 8V DC, 3 mA, NC, Make: PEPPERL + FUCHS	One	One
LS42	Proximity Switch EEx ia, Type NJ2-V3-N, 8V DC, 3 mA, NC, Make: PEPPERL + FUCHS	Two	Two
LS23	Proximity Switch Weather Proof, 10V - 60V, 100 mA, NO	One	One
LS43	Proximity Switch Weather Proof, 10V - 60V, 100 mA, NO	Two	Two
⑨ VL15	Electronic Positioner, with feedback, single acting valve		
⑨ VL16	Intelligent Positioner, with feedback, single acting valve		
⑨ VL161	Intelligent Positioner, with feedback and process control Analog Input single acting valve		

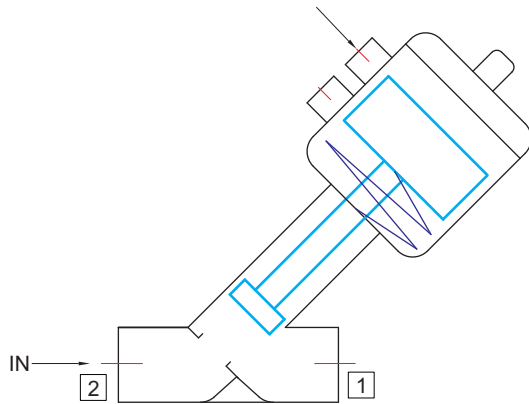
10	
⑪ MEDIA	
CODE	DESCRIPTION
×	Air, Inert Gas, Oil, Water

Note

- ① Do not specify when opted
- ② DN Operator can be 65090/ 65110/ 80110
- ③ DN Operator can be other than 65090/ 65110/ 80110
- ④ Should be opted only for port type AV & IV
- ⑤ Solenoid valve type 6, 7, 16, 17, 18 cannot be fitted on Valve
- ⑥ For 1/2" NPT Cable Entry, replace 19/ 87MS/ 58MS/ 67MS/ 66MS with 16/ 87NS/ 58NS/ 67NS/ 66NS
- ⑦ Valve type 08 & 09 can be supplied with coil voltage type D only
- ⑧ Select coil code 65CR/ 67MS/ 67NS and voltage E
- ⑨ Solenoid valve should not be opted
- ⑩ Pilot P1 not available.
- ⑪ Select media code other than default Media.
- ⑫ Port types Can be supplied with Port Size Suffix "F" for AF/IF, Suffix "P" for AP/APM, suffix "T" for AK

CONNECTION DETAIL/ RECOMMENDED INSTALLATION

PRESSURE BELOW SEAT



MEDIA

Steam, Air, Oil, Water, Fuel Gas and Liquid, Vacuum

ORDERING EXAMPLE

AV50090V02-F2-P2-16G-B13

50NB Single Acting Normally Open Angle Seat valve having 2" BSP port connection, PTFE seat, Body and wetted part CF8, SS 304 and Operator 90, Clean port, seals and O ring NBR

AV40090V02-F2-P2-S17-12R-B14-02-37-C-SL90

40NB Single Acting Normally Open Angle Seat Valve having 1 1/2" NPT threaded port connection, PEEK Seat, Body and wetted parts CF3M, SS 316L, Operator 90 NAMUR Ports, Seals and O ring VITON, along with Stroke limiter Type SL90 with 5/2 3/2 Convertible NAMUR Solenoid Valve, Body Material Aluminium Hard Anodised, fitted with, Explosion proof solenoid Ex d IIC T6, having cable entry 1/2" NPT, Voltage 110V AC, 6 Watt, Type 0237C

**OPERATING PARAMETERS**

DN Operator	DN	Actuator Ø	Connection	Kv m <sup>3</sup> /h	Double Acting Bi-Directional Universal					
					Pressure Above Plug			Pressure Below Plug		
					Pilot Pressure	Fluid Pressure		Pilot Pressure	Fluid Pressure	
						Up to 10 bar	AV, AW, AP, AF #300		AK, AF #150	Up to 10 bar
12050V01	12	50	1/2"	5.8	1.2	0	0	1.2	0	0
					2	16	16	3.4	16	16
					2.5	25				
20050V01	20	50	3/4"	10.8	1.8	0	0	1.8	0	0
					3.2	16	16	4.6	16	16
					4	25				
25050V01	25	50	1"	21	1.8	0	0	1.8	0	0
					4.4	16	16	5.2	16	16
					5.8	25				
32063V01	32	63	1 1/4"	31	1.2	0	0	1.2	0	0
					4.8	16	16	6.6	16	16
					6.8	25				
40063V01	40	63	1 1/2"	49	2	0	0	2.0	0	0
					5.8	16	16	6.0	12	12
					7.9	25				
40090V02	40	90	1 1/2"	49	0.8	0	0	0.8	0	0
					3.8	16	16	4.2	16	16
					5.5	25				
50090V02	50	90	2"	68	1.4	0	0	1.4	0	0
					5.8	16	16	6.2	16	16
					8.3	25				
50110V02	50	110	2"	68	1.1	0	0	1.1	0	0
					3.8	16	16	4.0	16	16
65090V02	65	90	2 1/2"	120	1	0	0	1.0	0	0
					7	12	12	7.2	8	2
					10	18	12	12.0		
65110V02	65	110	2 1/2"	120	1.8	0	0	1.8	0	0
					6	14	14	6.6	12	12
					9.2	25				
80110V02	80	110	3"	185	2	0	0	2	0	0
					7.5	12	12	8	12	12
					9	16		10	16	

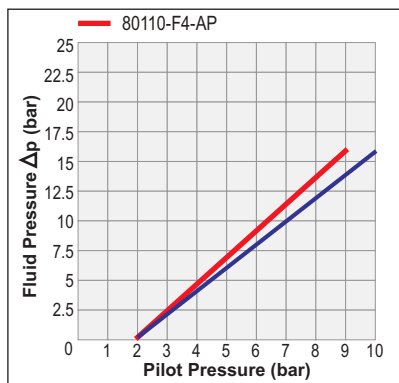
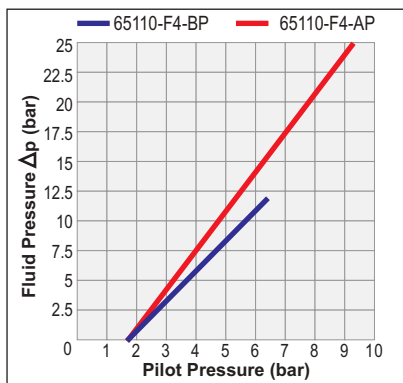
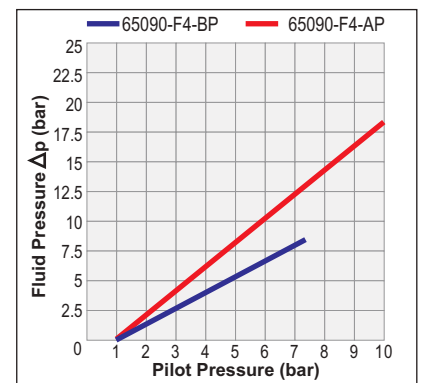
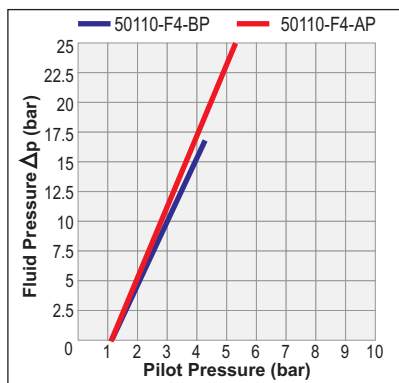
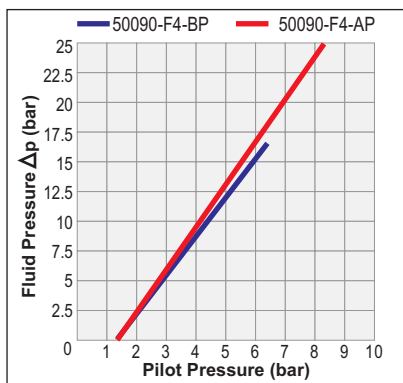
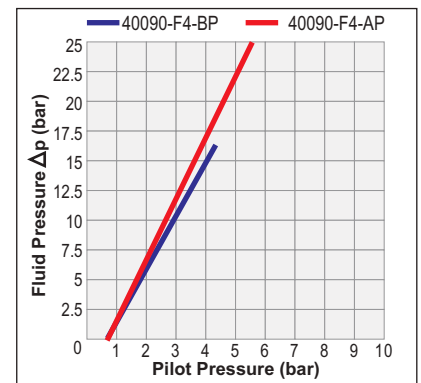
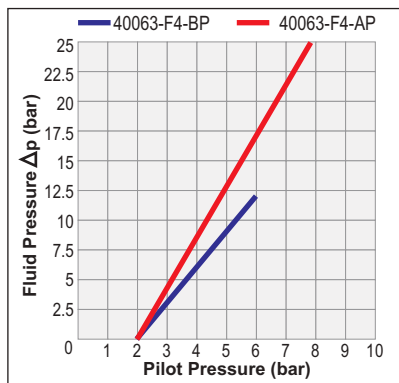
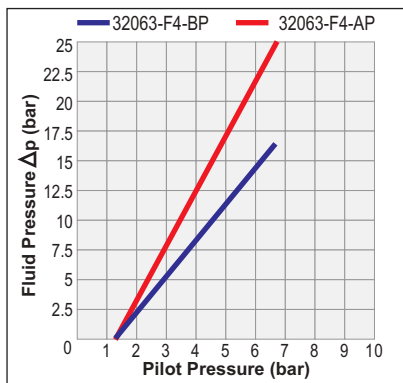
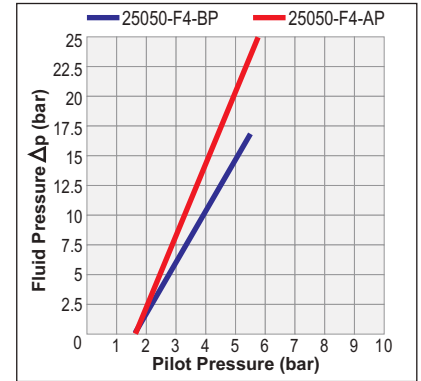
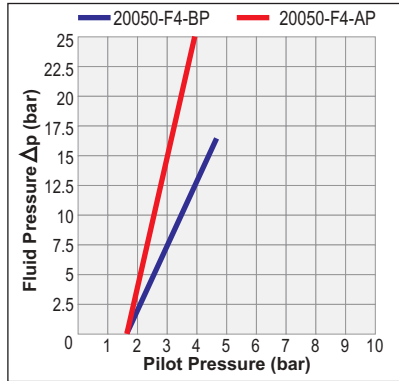
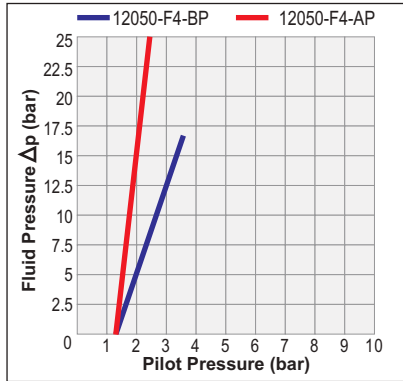
Note : For PED certified valves, maximum fluid pressure is limited to minimum value specified in pressure temperature chart on page 8 or table above



# ANGLE SEAT VALVE

## F4 DOUBLE ACTING BI-DIRECTIONAL UNIVERSAL

### OPERATING PARAMETERS



# ANGLE SEAT VALVE

## DOUBLE ACTING BI-DIRECTIONAL UNIVERSAL F4

### ORDERING CODE

1	2	3	4	5	6	7	8	9	10
PORT TYPE	DN-OPERATOR	FUNCTION	PILOT	SEAL SEAT	PORT SIZE	BODY	SOLENOID VALVE	ACCESSORIES	MEDIA
AV	12050V01	F4	P2	S17	4G	B14	12 - 67NS - E	LS21	*

1		2						3	
PORT TYPE		DN-OPERATOR						FUNCTION	
CODE	DESCRIPTION	CODE	DN	OPERATOR	CODE	DN	OPERATOR	CODE	DESCRIPTION
③ AV	Threaded Port	12050V01	12	Ø50	⑩ 50090V02	50	Ø90	F4	DOUBLE ACTING UNIVERSAL
③ AF	Flanged ANSI # 150	20050V01	20	Ø50	50110V02	50	Ø110		
③ AF300	Flanged ANSI # 300	25050V01	25	Ø50	⑩ 65090V02	65	Ø90		
③ AW	Weld Neck	32063V01	32	Ø63	65110V02	65	Ø110		
③ AP	Pipe Weld	40063V01	40	Ø63	80110V02	80	Ø110		
③ APM	Pipe Weld ISO1127	⑩ 40090V02	40	Ø90					
③ AK	Tri Clamp								
② IV	Inline Threaded								
② IF	Inline Flanged # 150								
② IF300	Inline Flanged # 300								

4		5			6						7	
PILOT		SEAL/ SEAT			⑫ ④ PORT SIZE						BODY (INTERNAL)	
CODE	DESCRIPTION	CODE	SEAL	SEAT	SIZE	BSP	NPT	SIZE	BSP	NPT	CODE	DESCRIPTION
P1	Clean Port	① *	NBR	PTFE	1/2"	4G	4R	1 1/2"	12G	12R	B13	CF8 (SS 304)
P2	NAMUR	S17	VITON	PEEK	3/4"	6G	6R	2"	16G	16R	B14	CF3M (SS 316L)
					1"	8G	8R	2 1/2"	20G	20R		
					1 1/4"	10G	10R	3"	24G	24R		

8											
SOLENOID VALVE ( A B C) Refer to page 11 for more details											
A			B						C		
CODE	VALVE MODEL		CODE	COIL CODE			CODE	VOLTAGE			
① *	Solenoid Valve Not Required		① *	Solenoid Valve Not Required			*	①	Solenoid Valve Not Required		
02	5/2 3/2 Convertible Single Solenoid NAMUR Type 51424		Weather Proof IP67						A	24V DC, 8 WATT	
03	5/2 3/2 Convertible Double Solenoid NAMUR Type 57450		22	Plug In as per DIN 43650B			A-01	24V DC, 8 WATT, ATEX			
⑦ 08	5/2 3/2 Convertible Single Solenoid NAMUR Low Power Type 51424LW2		25	Plug In as per DIN 43650A			A-01B	24V DC, 8 WATT, INDIAN+ATEX			
⑦ 09	5/2 3/2 Convertible Double Solenoid Low Power NAMUR Type 57450LW2		22S	Plug In as per DIN 43650B			B	230V 50Hz, 6 WATT			
⑧ 10	5/2 3/2 Convertible Single Solenoid NAMUR Valve With Intrinsically Safe Coil Type 51424IS		⑥ 19	Coil With Integral Terminal Box, Cable Entry M20 X 1.5			C	110V 50Hz, 6 WATT			
⑧ 11	5/2 3/2 Convertible Double Solenoid NAMUR Valve With Intrinsically Safe Coil Type 57450IS		Flame Proof IP67						C-01	110V 50Hz, 6 WATT, ATEX	
			39	Ex d, IIC, T4, Cable Entry M20 X 1.5			D	⑦ 24V DC, 2 WATT			
			37	Ex d, IIC, T4, Cable Entry 1/2" NPT (F)			E	⑧ 24V DC Ex ia			
			⑥ 87MS	Ex d, IIC, T6, IIC, T6, Cable Entry M20X1.5			E-01⑧	24V DC, Ex ia, IEC Ex,ATEX			
			⑥ 58MS	Ex e mb, IIC, T6, Cable Entry M20X1.5			F	24V 50Hz, 6 WATT			
			⑧ 65CR	Ex ia IIC, T6, Plug In as per DIN 43650A			G	24V DC, 8 WATT, SIZE III			
			⑥ 67MS	Ex ia, Integral Terminal Box, IIC, T6, Cable Entry M20 X 1.5			H	24V DC, 1 WATT			
			⑧				H-01	24V DC, 1 WATT, ATEX			
			⑥ 66MS	Ex ia, IIC, T6, With Booster Circuit, Integral Terminal Box, Cable Entry M20 X 1.5							
			⑧								

### ORDERING EXAMPLE (Solenoid Valve)

- 02 22 B >>> 5/2 Convertible NAMUR valve type 02 (basic model 51424) Aluminium Body, 1/4" BSP, 230V 50Hz with DIN plug IP67 coil
- 12 67NS E >>> 5/2, 3/2 Convertible Double Solenoid NAMUR valve type 12 (basic model 57450IS) Aluminium Body, 1/4" Port, with Intrinsically Safe, Ex ia IIC T6, IP67 Solenoid
- 08 37 D >>> 5/2 3/2 Convertible Single Solenoid NAMUR valve type 08 (basic model 51424) Aluminium Body, 1/4" BSP, with Explosion Proof Ex d IIC T6, IP67 Coil

## ANGLE SEAT VALVE

### F4 DOUBLE ACTING BI-DIRECTIONAL UNIVERSAL

#### ORDERING CODE

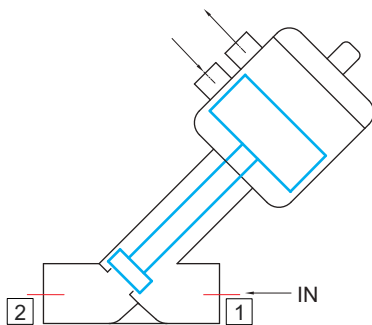
9				10		
ACCESSORIES (refer to page 9 & 10 for more details)			Sensing Element Qty.		① MEDIA	
CODE	DESCRIPTION		OPEN	CLOSE	CODE	DESCRIPTION
① *	Transparent Indicating Dome				*	Above Plug- Air, Inert Gas
SL50	Stroke Limiter for Operator Ø50				*	Below Plug- Air, Inert Gas, Oil, Water
SL63	Stroke Limiter for Operator Ø63					
SL90	Stroke Limiter for Operator Ø90					
SL110	Stroke Limiter for Operator Ø110					
LS21	Microswitch, 5 Amp 250V AC, 0.1 A 48V DC, SPDT, Make : Honeywell		One	One		
LS41	Microswitch, 5 Amp 250V AC, 0.1 A 48V DC, SPDT, Make : Honeywell		Two	Two		
LS22	Proximity Switch EEx ia, Type NJ2-V3-N, 8V DC, 3 mA, NC, Make: PEPPERL + FUCHS		One	One		
LS42	Proximity Switch EEx ia, Type NJ2-V3-N, 8V DC, 3 mA, NC, Make: PEPPERL + FUCHS		Two	Two		
LS23	Proximity Switch Weather Proof, 10V - 60V, 100 mA, NO		One	One		
LS43	Proximity Switch Weather Proof, 10V - 60V, 100 mA, NO		Two	Two		
⑨ VL16D	Intelligent Positioner, with feedback, double acting valve					
⑨ VL161D	Intelligent Positioner, with feedback and process control Analog Input double acting valve					

**Note**

- ① Do not specify when opted
- ② DN Operator can be 65090/ 65110/ 80110
- ③ DN Operator can be other than 65090/ 65110/ 80110
- ④ Should be opted only for port type AV & IV
- ⑤ Solenoid valve type 31119/ 51400 cannot be fitted on Valve
- ⑥ For 1/2" NPT Cable Entry, replace 19/ 87MS/ 58MS/ 67MS/ 66MS with 16/ 87NS/ 58NS/ 67NS/ 66NS
- ⑦ Valve type 08 & 09 can be supplied with coil voltage type D only
- ⑧ Valve type 11 & 12 can be supplied with coil code 65CR/ 67MS/ 67NS only
- ⑨ Solenoid valve should not be opted
- ⑩ Pilot P1 not available.
- ⑪ Select media code other than default Media.
- ⑫ Port types Can be supplied with Port Size Suffix "F" for AF/IF, Suffix "P" for AP/APM, suffix "T" for AK

#### CONNECTION DETAIL/ RECOMMENDED INSTALLATION

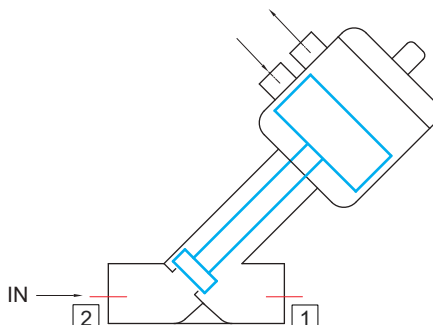
**Normally close  
Pressure Above Seat**



**MEDIA**

Gas, Steam, Air, Vacuum, LPG

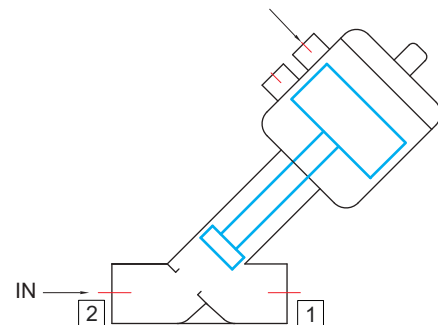
**Normally close  
Pressure Below Seat**



**MEDIA**

Gas, Air, Water, Vacuum, Oil, Liquid, Fuel

**Normally open  
Pressure Below Seat**



**MEDIA**

Steam, Air, Oil, Water, Fuel Gas and Liquid, Vacuum

#### ORDERING EXAMPLE

**AV32063V01-F4-P1-16G-B13**

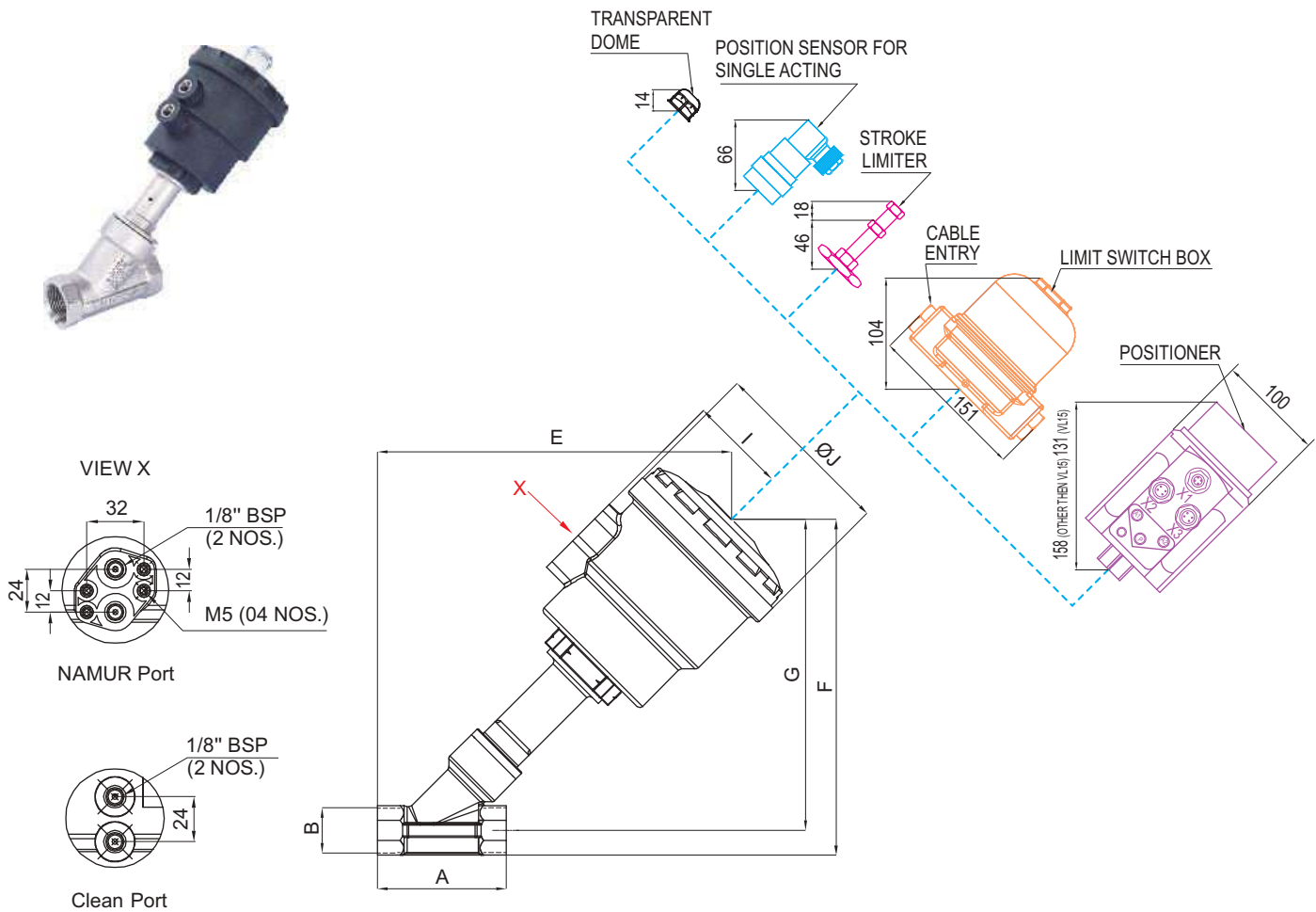
32NB Double Acting Bi-Directional Universal Angle Seat valve having 11/4" BSP port connection, PTFE seat, Body and wetted part CF8, SS 304 and Operator 63, Clean port, seals and O ring NBR

**AF25050V01-F4-P2-S17-B14-11-67NS-E-LS22**

25NB Double Acting Bi-Directional Universal Angle Seat Valve having 25NB RF #150 flanged port connection, PEEK Seat, Body and wetted parts CF3M, SS 316L, Operator diameter 50 mm having NAMUR Ports, Seals and O ring VITON, along with position sensor box having Powder coated Aluminium Cast enclosure, One number each Micro Switch, SPDT, 5AMP for AC, 0.5 AMP for DC, to sense Open and Close position of the valve, Cable Entry 2 Number M25 X 1.5 mm Type LS21 with 5/2 3/2 Convertible NAMUR Solenoid Valve with Intrinsically safe Solenoid, Body Material Aluminium Hard Anodised, fitted with, Explosion proof solenoid Ex ia IIC T6, having cable entry 1/2" NPT, Voltage 24V DC, Type 11-67NS-E

**DIMENSIONS**

TYPE AV : Threaded ports as per ISO 228/1 and ISO 7/1



(All dimensions are in mm)

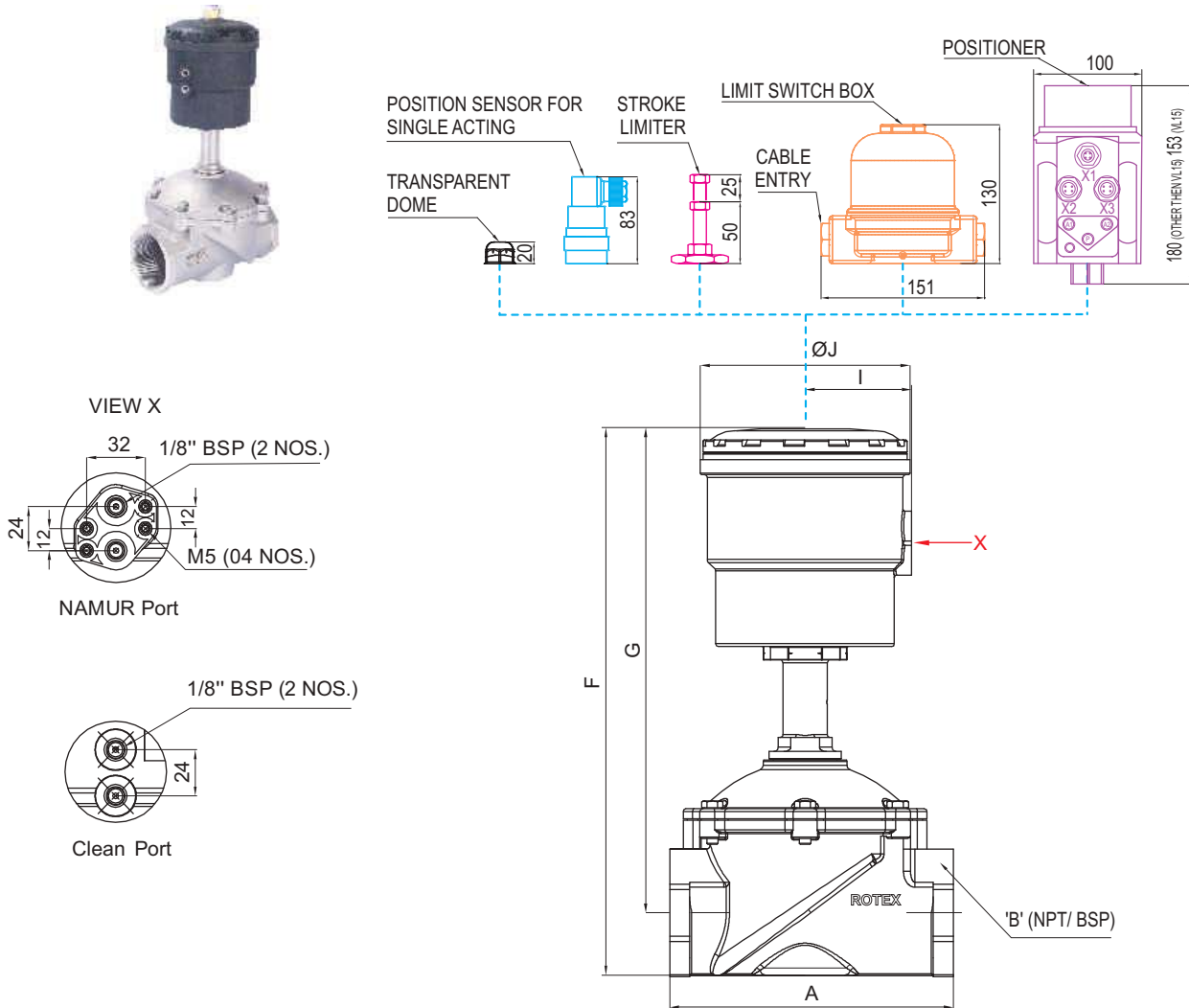
Type	DN	Actuator Ø	A	B BSP/ NPT	E	F	G	ØJ	I	kg.
AV12050V01	12	50	65	1/2"	167	158	146	75	42	1
AV20050V01	20	50	75	3/4"	171	161	145	75	42	1.1
AV20063V01	10	63	75	3/4"	185	174	158	93	49	1.3
AV25050V01	25	50	90	1"	177	165	145	75	42	1.4
AV25063V01	25	63	90	1"	190	179	158	93	49	1.6
AV32063V01	32	63	110	1 1/4"	200	188	162	93	49	2.1
AV32090V02	32	90	110	1 1/4"	233	220	196	124	67	3.2
AV40063V01	40	63	120	1 1/2"	205	199	169	93	49	2.9
AV40090V02	40	90	120	1 1/2"	235	229	199	124	67	3.9
AV50063V01	50	63	150	2"	233	218	183	93	49	3.6
AV50090V02	50	90	150	2"	263	248	213	124	67	4.3
AV50110V02	50	110	150	2"	283	248	232	148	75	6.3

# ANGLE SEAT VALVE

## TYPE IV

### DIMENSIONS

TYPE IV : Threaded ports as per ISO 228/1 and ISO 7/1



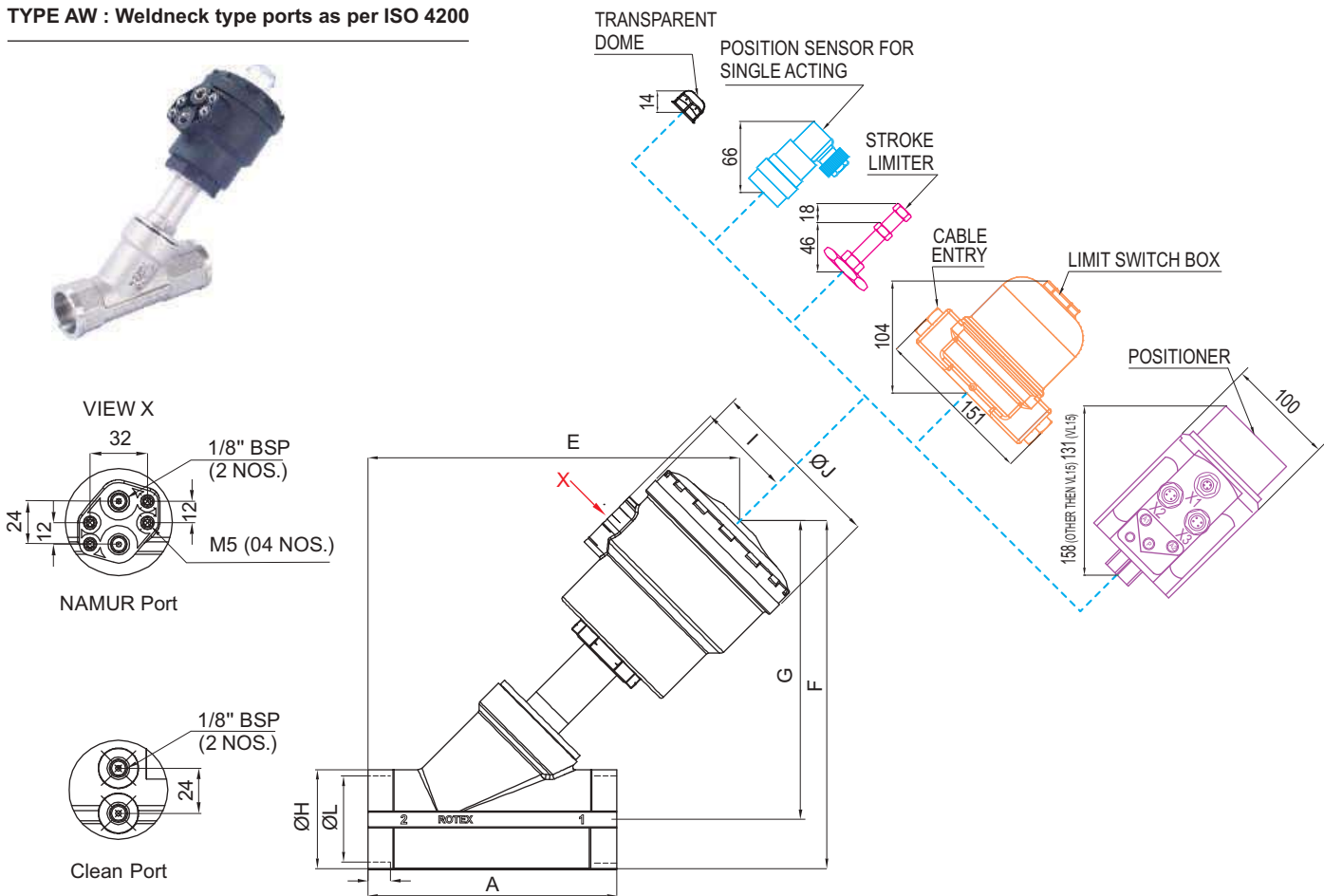
(All dimensions are in mm)

Type	DN	Actuator Ø	A	B BSP/ NPT	F	G	ØJ	I	kg.
IV65090V02	65	90	200	2 1/2"	361	316	124	67	9.1
IV65110V02	65	110	200	2 1/2"	391	316	148	75	10.0
IV80110V02	80	110	235	3"	415	363	148	75	15.3

**ANGLE SEAT VALVE  
TYPE AW**

**DIMENSIONS**

TYPE AW : Weldneck type ports as per ISO 4200



(All dimensions are in mm)

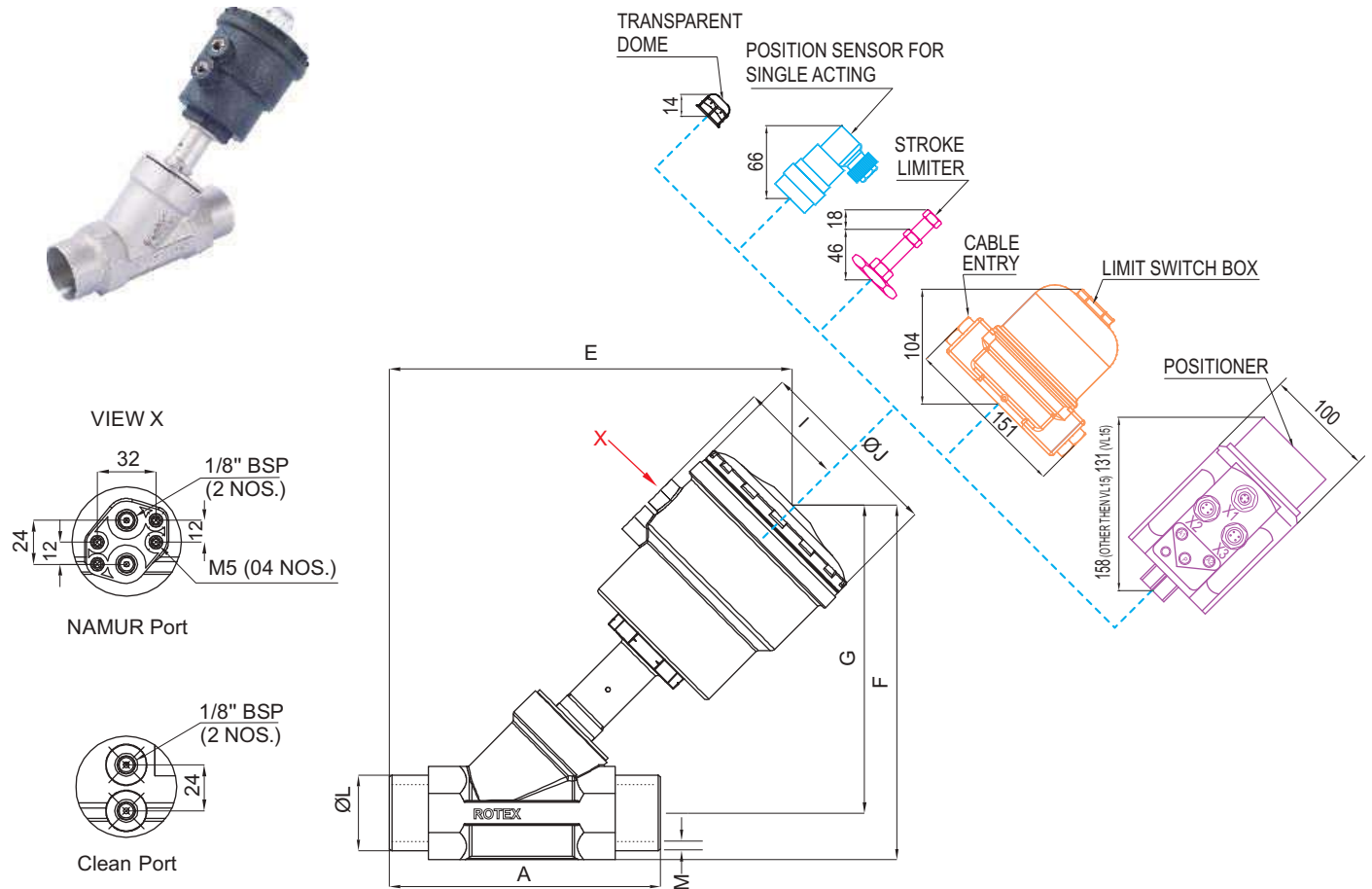
Type	DN	Actuator Ø	A	E	F	G	ØJ	I	ØH	ØL	kg.
AW12050V01	12	50	100	167	158	146	75	42	24	21.3	1
AW20050V01	20	50	115	171	161	145	75	42	31	26.9	1.1
AW20063V01	20	63	115	185	174	158	93	49	31	26.9	1.5
AW25050V01	25	50	130	177	165	145	75	42	39	33.7	1.4
AW25063V01	25	63	130	190	179	158	93	49	39	33.7	1.6
AW32063V01	32	63	145	200	188	162	93	49	49	42.4	2.1
AW32090V02	32	90	145	233	220	196	124	67	49	42.4	4
AW40063V01	40	63	160	205	199	169	93	49	57	48.3	2.9
AW40090V02	40	90	160	235	229	199	124	67	57	48.3	4.3
AW50063V01	50	63	175	233	218	183	93	49	69	60.3	3.8
AW50090V02	50	90	175	263	248	213	124	67	69	60.3	5.5
AW50110V02	50	110	175	283	248	232	148	75	69	60.3	6.7
IW65090V02	65	90	CONTACT ROTEX								
IW65110V02	65	110									
IW80110V02	80	110									



# ANGLE SEAT VALVE TYPE AP/ APM

## DIMENSIONS

TYPE AP : Butt weld for pipe as per ANSI 36.1, B 36.19 Sch 40  
TYPE APM : Butt weld for pipe as per ISO 1127

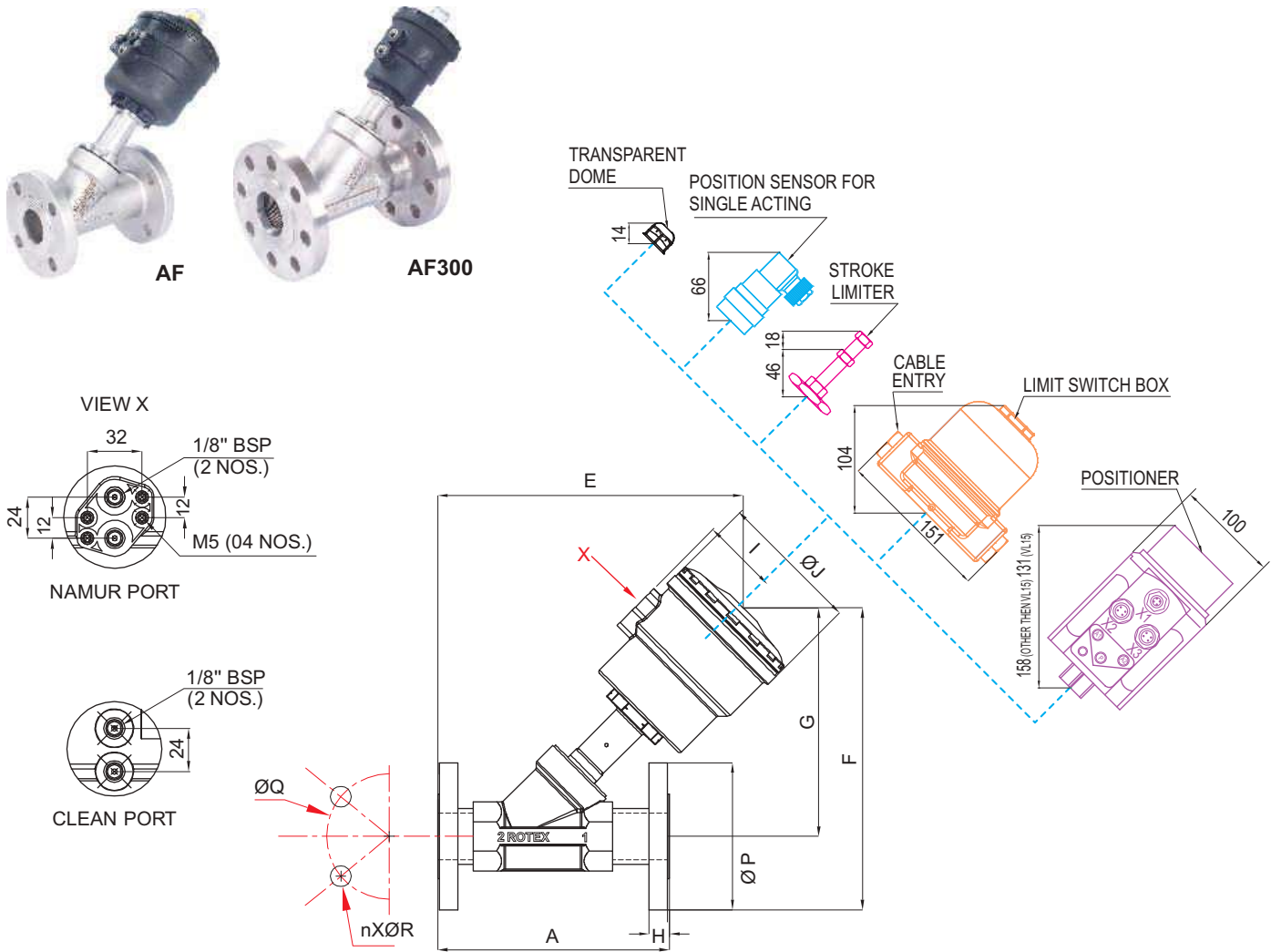


(All dimensions are in mm)

Type	DN	Actuator Ø	A	E	F	G	ØJ	I	kg.	AP		APM	
										ØL	M	ØL	M
AP/APM12050V01	12	50	115	192	158	146	75	42	1	21.3	5.5	21.3	2.7
AP/APM20050V01	20	50	125	196	161	145	75	42	1.2	26.6	5.7	26.7	2.8
AP/APM20063V01	20	63	125	210	174	158	93	49	1.5	26.6	5.7	26.7	2.8
AP/APM25050V01	25	50	140	202	165	145	75	42	1.6	33.4	6.8	33.4	3.3
AP/APM25063V01	25	63	140	215	179	158	93	49	1.8	33.4	6.8	33.4	3.3
AP/APM32063V01	32	63	160	225	188	162	93	49	2.3	42.1	7.1	42.1	3.5
AP/APM32090V02	32	90	160	258	220	196	124	67	3.3	42.1	7.1	42.1	3.5
AP/APM40063V01	40	63	170	230	199	169	93	49	3	48.2	7.4	48.2	3.6
AP/APM40090V02	40	90	170	260	229	199	124	67	3.2	48.2	7.4	48.2	3.6
AP/APM50063V01	50	63	200	258	218	183	93	49	3.8	60.3	7.8	60.3	3.9
AP/APM50090V02	50	90	200	288	248	213	124	67	4.8	60.3	7.8	60.3	3.9
AP/APM50110V02	50	110	200	308	248	232	148	75	6.6	60.3	7.8	60.3	3.9
IP/IPM65090V02	65	90	CONTACT ROTEX										
IP/IPM65110V02	65	110											
IP/IPM80110V02	80	110											

**DIMENSIONS**

TYPE AF : Flange connection as per ASME 16.5 (#150-RF), Face to Face distance as per ASME 16.5  
TYPE AF300: Flange connection as per ASME 16.5 (#300-RF), Face to Face distance as per ASME 16.5



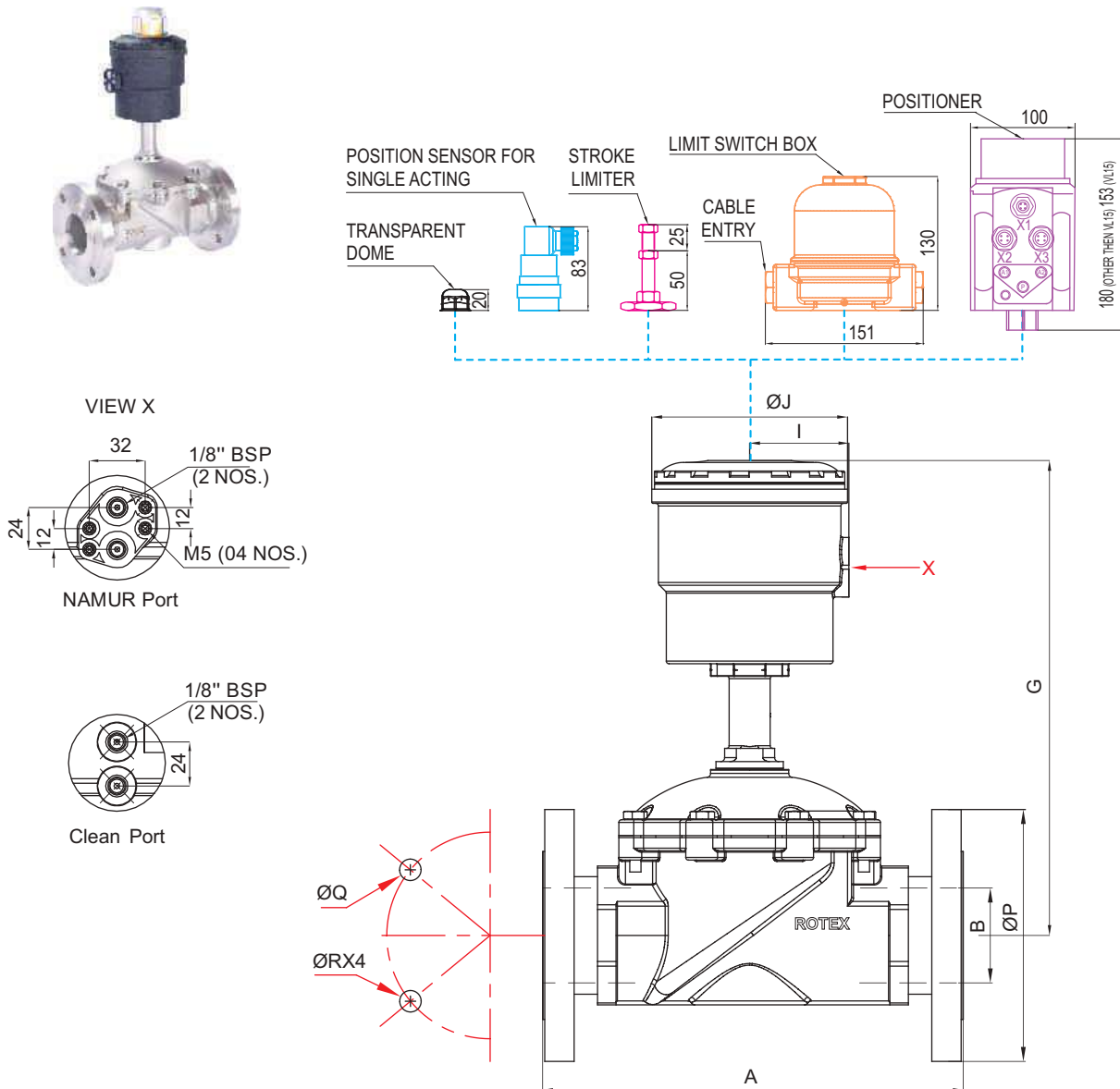
(All dimensions are in mm)

Type	DN	Actuator Ø	G	ØJ	I	AF						AF300							
						A	E	ØP	ØQ	nxØR	H	kg.	A	E	ØP	ØQ	nxØR	H	kg.
AF/AF300 12050V01	12	50	140	75	42	140	192	88.9	60.3	4x15.8	11.1	1.8	CONTACT ROTEX						
AF/AF300 20050V01	20	50	140	75	42	152	202	98.4	69.8	4x15.8	12.7	3							
AF/AF300 20063V01	20	63	155	93	49	152	220	98.4	69.8	4x15.8	12.7	2.9							
AF/AF300 25050V01	25	50	140	75	42	165	215	107.9	79.4	4x15.8	14.3	3	203	220	124.0	88.9	4x19.0	17.5	3.5
AF/AF300 25063V01	25	63	155	93	49	165	228	107.9	79.4	4x15.8	14.3	4.2	203	235	124.0	88.9	4x19.0	17.5	4.2
AF/AF300 32063V01	32	63	158	93	49	184	244	117.5	88.9	4x15.8	15.9	4.7	178	230	134.0	98.4	4x19.0	19.0	4.8
AF/AF300 32090V02	32	90	192	112	67	184	280	117.5	88.9	4x15.8	15.9	5.8	178	265	134.0	98.4	4x19.0	19.0	5.9
AF/AF300 40063V01	40	63	188	93	49	165	225	125	98.4	4x15.8	16.4	5.5	240	235	156.0	114.3	4x22.3	20.6	6.6
AF/AF300 40090V02	40	90	204	112	67	165	240	125	98.4	4x15.8	16.4	6.5	240	248	156.0	114.3	4x22.3	20.6	7.5
AF/AF300 50063V01	50	63	197	93	49	214	246	152	120.6	4x19	19.1	8.2	CONTACT ROTEX						
AF/AF300 50090V02	50	90	213	112	67	214	263	152	120.6	4x19	19.1	9.1							
AF/AF300 50110V02	50	110	232	152	77	214	282	152	120.6	4x19	19.1	10.1							

# ANGLE SEAT VALVE TYPE IF/ IF300

## DIMENSIONS

TYPE IF : Flange connection as per ASME #150RF  
TYPE IF300 : Flange connection as per ASME #300RF



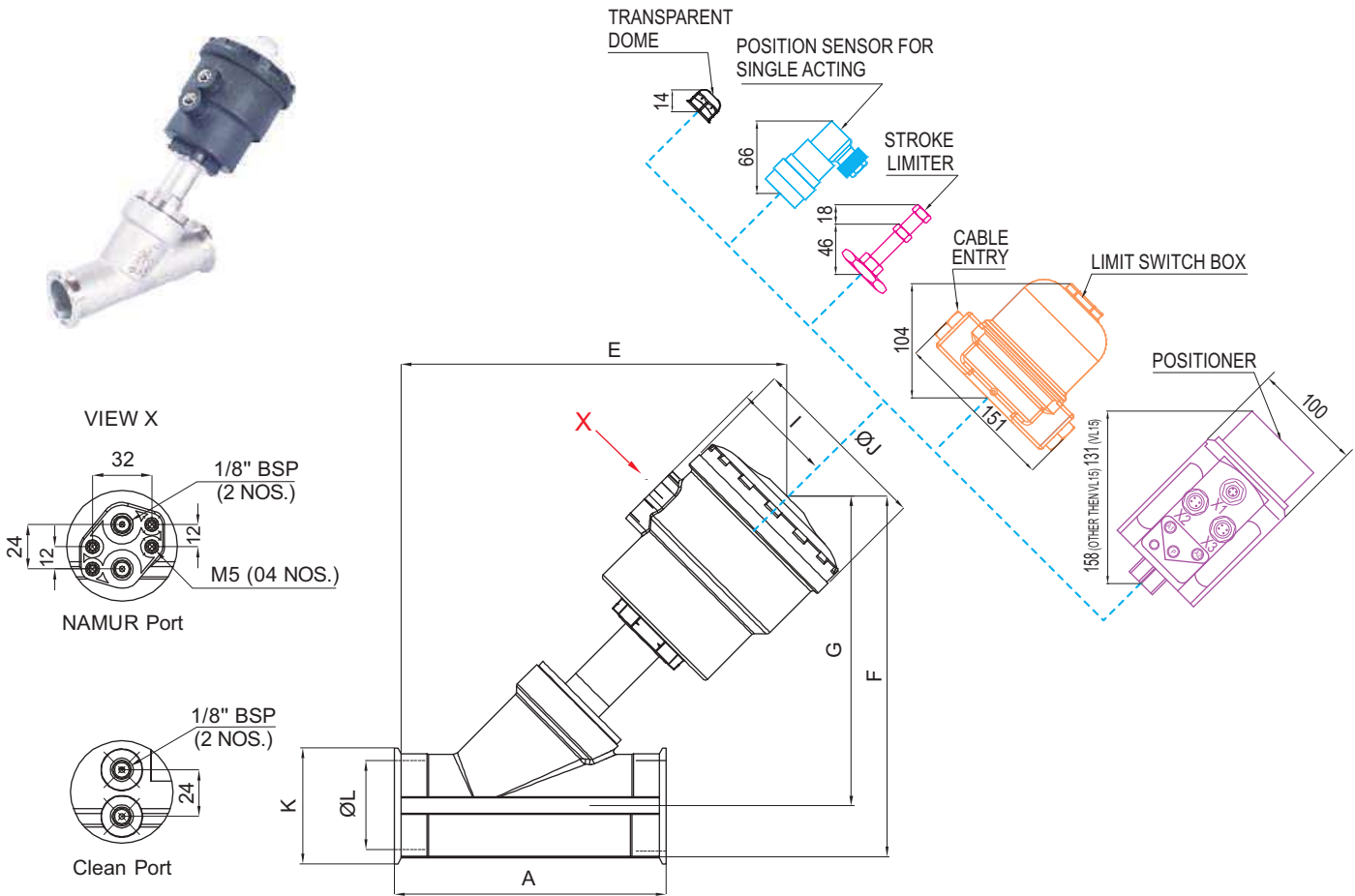
(All dimensions are in mm)

Type	DN	Actuator Ø	B	G	ØJ	I	IF					IF300							
							A	H	ØP	ØQ	n x ØR	kg.	A	H	ØP	ØQ	n x ØR	kg.	
IF/IF300 65090V02	65	90	62.7	307	112	67	295	22.7	180	139.7	4x19	14	CONTACT ROTEX						
IF/IF300 65110V02	65	110	62.7	333	152	77	295	22.7	180	139.7	4x19	16.0							
IF/IF300 80110V02	80	110	76.2	348	152	77	335	23.8	190.5	152.4	4x19	20.5							

**ANGLE SEAT VALVE  
TYPE AK**

**DIMENSIONS**

TYPE AK : Triclamp end as per ISO 2852



(All dimensions are in mm)

Type	DN	Actuator Ø	A	E	F	G	ØJ	I	ØL	ØK	kg.
AK12050V01	12	50	100	168	163	146	75	42	18.1	34	1
AK20050V01	20	50	115	174	171	145	75	42	23.7	50.5	1.3
AK20063V01	20	63	115	183	184	158	93	49	23.7	50.5	1.5
AK25050V01	25	50	130	177	171	145	75	42	29.7	50.5	1.5
AK25063V01	25	63	130	197	184	158	93	49	29.7	50.5	1.7
AK32063V01	32	63	145	205	188	162	93	49	33.6	53.6	2.1
AK32090V02	32	90	145	248	222	196	124	67	33.6	53.6	3.2
AK40063V01	40	63	160	212	201	169	93	49	44.3	64	3
AK40090V02	40	90	160	250	231	199	124	67	44.3	64	4.1
AK50063V01	50	63	190	240	222	183	93	49	55.7	77.5	3.7
AK50090V02	50	90	190	278	252	213	124	67	55.7	77.5	5.3
AK50110V02	50	110	190	316	271	232	148	75	55.7	77.5	6.5
IK65090V02	65	90	CONTACT ROTEX								
IK65110V02	65	110									
IK80110V02	80	110									



Valve with Proximity Sensor suitable for Single/ Double Acting



Valve with Flanged end & Position Sensor box, IP67



Valve with Metallic Operator, Media and Pilot 32 bar Hydraulic Oil



Valve with Weld Neck Port as per ANSI/ ASME B 36.10 and B 36.19



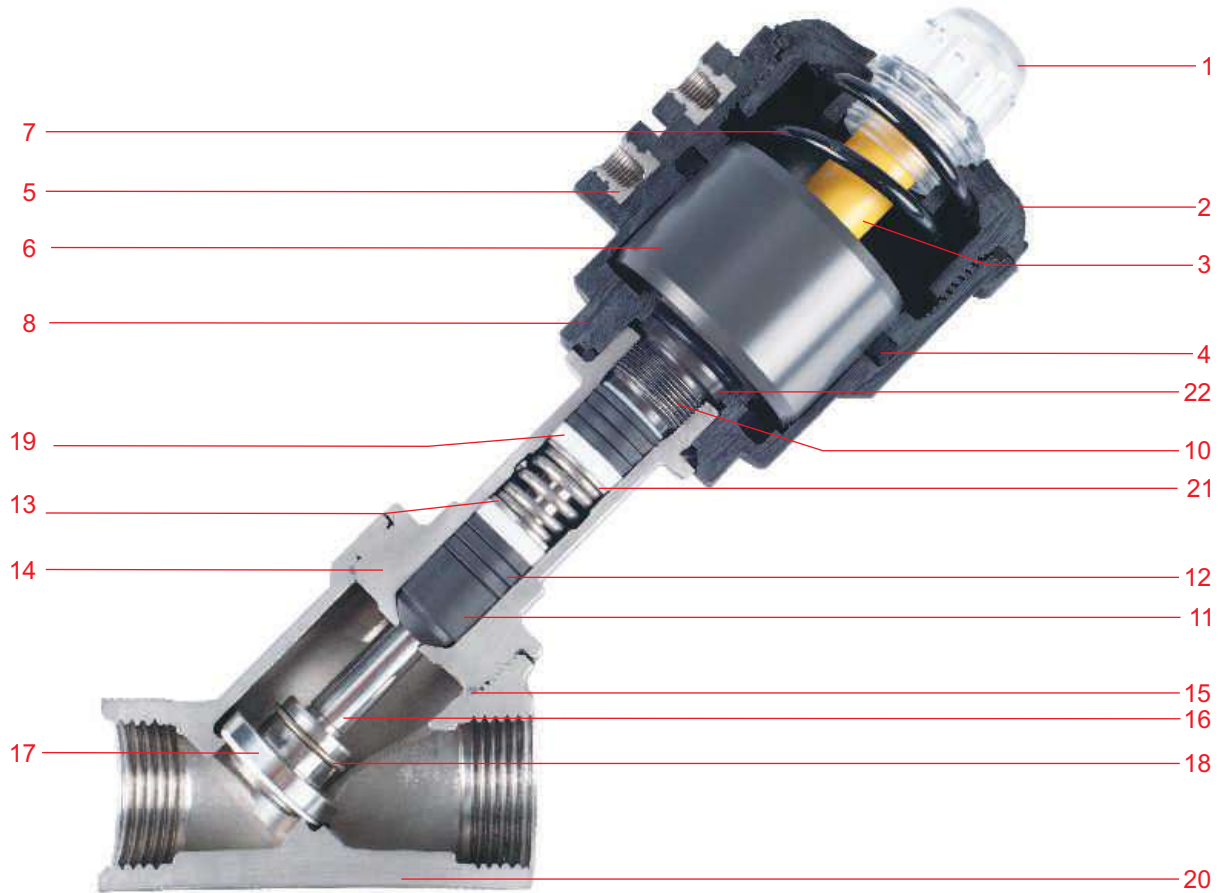
MS flange with lock nut adopted to Threaded Port Valve



Valve with mechanical Stroke Limiter

And Many More...

**ANGLE SEAT VALVE  
CONSTRUCTION**



**ORDERING CODE**

CODE	TOOL
T50	For opening Ø50 operator
T63	For opening Ø63 operator
① T90	For opening Ø90 operator
T110	For opening Ø110 operator

Note :  
① Not required for DN-Operator 32090V02, 40090V02, 50090V02, 65090V02

**ORDERING EXAMPLE**

**T50**  
Cover opening tool for operator Ø50

**TOOL KIT**



Note :  
To avoid damage, held operator in soft Jaw vice, and open Cover using special tool



# ANGLE SEAT VALVE ORDERING CODE SPARES

	Description	Material	Pos. No.	Qty.
Body (Internals)		CF8 (SS 304) CF3M (SS 316L), (1.4435)	20	1
Repair Kit (97)	Consists of Operator, Sleeve, Seat and Seal kit assembly (Assembled Condition)			
	Indicator Dome	Polycarbonate	1	1
	Operator Cover	Glass filled Nylon	2	1
	Open Indicator	ABS	3	1
	Piston Seal	NBR	4	1
	Insert	SS 316/ SS 304	5	2
	Piston	Aluminium Anodised	6	1
	Piston Spring	Carbon Steel (IS4454 GR II)	7	1*
	Piston Inner Spring	Carbon Steel (IS4454 GR II)	7A	1*
	Operator	Glass filled Nylon	8	1
	Shaft Seal	NBR	9	1
	Hex Assembly	Aluminium hard Anodised	10	1
	Operator Seal	NBR	21	2
	Shaft Bearing	PTFE/ PEEK	11	1
	Gland Packing	PTFE	12	6
	Gland Spring	SS 302	13	1
	Sleeve	CF8 (SS 304), CF3M (SS 316L, Cast), (1.4435)	14	1
	Body Seal	PTFE	15	1
	Shaft	SS 304/ SS 316L (1.4404)	16	1
	Hex Assembly	Aluminium hard Anodised	22	1
	Washer	SS 304	21	2
	Gland Packing Retainer	PTFE	19	1
	Seat + Seal Kit (96)	Consists of		
	Seat holder assembly	SS 304/ SS 316	17	1
	Retaining Ring	SS 302	18	1
	O ring/ Quad seals	NBR/ VITON		6/ 1
	Body Seal	PTFE	15	1

\*(Where applicable)

## ORDERING CODE SPARES

1	2	3	4	5	6
SPARE KIT	DN-OPERATOR - VERSION	FUNCTION	PILOT	SEAL SEAT	BODY
97	32063V01	F6	P1	*	B13

<table style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center; border: 1px solid black; padding: 2px;">1</td></tr> <tr><td style="text-align: center; border: 1px solid black; padding: 2px;">SPARE KIT</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">Operator + Seal Kit + Seat + Sleeve Assembly</td><td style="border: 1px solid black; padding: 2px; text-align: right;">97</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">Seat + Seal Kit</td><td style="border: 1px solid black; padding: 2px; text-align: right;">96</td></tr> </table>	1	SPARE KIT	Operator + Seal Kit + Seat + Sleeve Assembly	97	Seat + Seal Kit	96	<table style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center; border: 1px solid black; padding: 2px;">2</td></tr> <tr><td style="text-align: center; border: 1px solid black; padding: 2px;">DN-OPERATOR - VERSION <span style="color: orange;">①</span></td></tr> <tr><td style="border: 1px solid black; padding: 2px;">12050</td><td style="border: 1px solid black; padding: 2px;">40090</td><td style="border: 1px solid black; padding: 2px;">#</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">12063</td><td style="border: 1px solid black; padding: 2px;">50063</td><td style="border: 1px solid black; padding: 2px;">V01</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">20050</td><td style="border: 1px solid black; padding: 2px;">50090</td><td style="border: 1px solid black; padding: 2px;">V02</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">20063</td><td style="border: 1px solid black; padding: 2px;">50110</td><td></td></tr> <tr><td style="border: 1px solid black; padding: 2px;">25050</td><td style="border: 1px solid black; padding: 2px;">65090</td><td></td></tr> <tr><td style="border: 1px solid black; padding: 2px;">25063</td><td style="border: 1px solid black; padding: 2px;">65110</td><td></td></tr> <tr><td style="border: 1px solid black; padding: 2px;">32063</td><td style="border: 1px solid black; padding: 2px;">80110</td><td></td></tr> <tr><td style="border: 1px solid black; 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text-align: right;">P2</td></tr> <tr><td style="text-align: center; border: 1px solid black; padding: 2px;">5</td></tr> <tr><td style="text-align: center; border: 1px solid black; padding: 2px;">SEAL SEAT</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">NBR</td><td style="border: 1px solid black; padding: 2px;">PTFE</td><td style="border: 1px solid black; padding: 2px;">*</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">VITON</td><td style="border: 1px solid black; padding: 2px;">PEEK</td><td style="border: 1px solid black; padding: 2px;">S17</td></tr> <tr><td style="text-align: center; border: 1px solid black; padding: 2px;">6</td></tr> <tr><td style="text-align: center; border: 1px solid black; padding: 2px;">BODY</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">CF3M</td><td style="border: 1px solid black; padding: 2px;">B14</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">CF8</td><td style="border: 1px solid black; padding: 2px;">B13</td></tr> </table>	4	PILOT CONNECTION	Clean Port	P1	NAMUR	P2	5	SEAL SEAT	NBR	PTFE	*	VITON	PEEK	S17	6	BODY	CF3M	B14	CF8	B13
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Note :

\* Do not specify when opted for

- ① Some Components of the valves having different version number will not interchange, hence while ordering spares it is compulsory to mention MM/ YY or Sr. No. of the Valve

## ORDERING EXAMPLE

### 99-32063V01-F6-P1-B13

63 Ø Operator assembly having clean pilot ports, NBR seals and O rings suitable for 32 NB Normally Closed, Single Acting Angle Seat Valve, insert pressure below plug



*Engineering For The Future*

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