ASCO™ Series Solenoid Valve

15/16 Pilot Operated, Spool Type,
Single/Dual Solenoid, Aluminium Body, 1/4, Namur and Threaded Style

3/2
5/2
Series
531

Features

- The “Namur” style spool valve have threaded port connection and Namur interface, and “Threaded “ style spool valve have threaded port connections
- All the exhaust ports of this spool valve are connectable, providing better environmental protection, particularly recommended for sensitive areas such as clean rooms, and applications in the pharmaceutical and food processing sectors
- The valve offers environmental protection against the ingress of liquids, dusts or any other foreign matter (environmentally-protected construction)
- Can be externally piloted (external air pilot supply) to convert valve to zero minimum operation by flipping a gasket
- Stainless steel manual operator as standard



General

Differential pressure 2 - 10 bar [1 bar = 100 kPa]
Flow (Qv at 6 bar) 1100 l/min (ANR)

Fluids (*)	Temperature Range (TS)	Seal Material (*)
air, inert gas, filtered	-25°C to +60°C	NBR (nitrile) + PUR (polyurethane)

Specifications

Pipe Size	Orifice Size	Flow Coefficient Kv		Operating Pressure Differential (bar)			Power Level	Prefix Optional Solenoids							Basic Catalog Number
		Kv		Min.*	Max.(PS) Air			NEMA		CCC				IP65	
								4 & 4X	7& 9	Ex m	Ex md	Ex ia	Ex d IIB	Ex d IIC	
(G)	(mm)	(m^3/h)	(l/min)		AC	DC	AC/DC	VC[1]	EF		VCEF	JPIS	LPKF	LK	SC	
NAMUR 3/2 NC-5/2- Solenoid air pilot operated – spring return (Single Solenoid)																
1/4	6	0.95	15.5	0/2	10	10	BP	-	-	-	-	-	-	●	❖531B401MO
1/4	6	0.95	15.5	0/2	10	10	BP	●	●	●	-	-	-	-	❖531H401MO
1/4	6	0.95	15.5	0/2	10	10	RP	-	-	-	-	-	○	-	❖531B701MO
1/4	6	0.95	15.5	0/2	10	10	LP	-	-	-	○	○	-	-	❖531B301MO
1/4	6	0.95	15.5	0/2	10	10	LP	○	○	○	-	-	-	-	❖531H301MO
NAMUR 3/2 NC-5/2- Solenoid air pilot operated and return (Double Solenoid)																
1/4	6	0.95	15.5	0/2	10	10	BP	-	-	-	-	-	-	●	❖531B402MO
1/4	6	0.95	15.5	0/2	10	10	BP	●	●	●	-	-	-	-	❖531H402MO
1/4	6	0.95	15.5	0/2	10	10	RP	-	-	-	-	-	○	-	*531B702MO
1/4	6	0.95	15.5	0/2	10	10	LP	-	-	-	○	○	-	-	❖531B302MO
1/4	6	0.95	15.5	0/2	10	10	LP	○	○	○	-	-	-	-	❖531H302MO
THREADED 5/2- Solenoid air pilot operated – spring return (Single Solenoid)																
1/4	6	0.95	15.5	0/2	10	10	BP	-	-	-	-	-	-	●	❖531B417MO
1/4	6	0.95	15.5	0/2	10	10	BP	●	●	●	-	-	-	-	❖531H417MO
1/4	6	0.95	15.5	0/2	10	10	RP	-	-	-	-	-	○	-	❖531B717MO
1/4	6	0.95	15.5	0/2	10	10	LP	-	-	-	○	○	-	-	❖531B317MO
1/4	6	0.95	15.5	0/2	10	10	LP	○	○	○	-	-	-	-	❖531H317MO
THREADED 5/2- Solenoid air pilot operated and return (Double Solenoid)																
1/4	6	0.95	15.5	0/2	10	10	BP	-	-	-	-	-	-	●	❖531B418MO
1/4	6	0.95	15.5	0/2	10	10	BP	●	●	●	-	-	-	-	❖531H418MO
1/4	6	0.95	15.5	0/2	10	10	RP	-	-	-	-	-	○	-	*531B718MO
1/4	6	0.95	15.5	0/2	10	10	LP	-	-	-	○	○	-	-	❖531B318MO
1/4	6	0.95	15.5	0/2	10	10	LP	○	○	○	-	-	-	-	❖531H318MO

● Available Feature; ○ Available feature in DC only - Not available
LP = Low Power; BP = Basic Power
* Zero minimum is only achieved if external pressure is applied
[1] USA REDHAT II Standard Coil with VC Junction Box
Note: If valve supply with USA REDHAT II standard coil without junctioon box, put no prefix, example: ❖531H401MO
❖ 8 for NPT; G for G Thread;

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Materials in Contact with Fluid

(*) Ensure that the compatibility of the fluids in contact with the materials is verified

Body	Aluminium, black anodized
End cover (spring)	Glass-filled PA
Interface plates	Glass-filled PA
Spool valve internal parts	Zamak, stainless steel, (POM), aluminium
Core tube	Stainless steel
Core and plugnut	Stainless steel
Core spring	Stainless steel
Seals	NBR
Top disc	PA
Disc holder	POM
Cartridge (low power)	Welded, packless AISI 430
Shading coil	Copper

How to Order

Prefix (*)	Basic Number (*)	Voltage
SC	❖ 531 B 401 MO	230V/50Hz
SC	❖ 531 B 402 MO	230V/50Hz
EF	❖ 531 H 417 MO	24V/DC
EF	❖ 531 H 317 MO	24V/DC
JPIS	❖ 531 B 302 MO	24V/DC
VCEF	❖ 531 H 418 MO	110V/50Hz
LPKF	❖ 531 B 301 MO	24V/DC

(*) Prefix EF should always be used with the letter H in the basic number.
Note: When TPL indicated, X added before basic catalogue number, example: EFX❖531H401MO, TPL 2 0547

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Electrical Characteristics

Prefix Opetion	Norminal Power Rating				Oprating Ambient Temparature Range TS (°C)	Safety Code	Electrical Enclosure Protection (EN60529)	Replacement Coil		Type[1]
	Inrush AC	Holding AC		Hot/Cold DC				AC	DC	
	(VA)	(VA)	(W)	(W)				230V/50Hz	24VDC	
Basic Power (BP)										
SC	55	23	10.5	9/11.2	-25 to +60	EN 60730	Moulded IP65	400425-117	400425-142	01
EF	55	23	10.5	9/11.2	-40 to +52/+55 @T4	CCC Gas: Ex mb IIC T3 ... T6 Gb CCC Dust: Ex mb IIIC T85°C ... T200°C Db	IP66/IP67	238614-058	238714-006	03
VCEF	55	23	10.5	9/11.2	-40 to +52/+55 @T4	CCC Gas: Ex db mb IIC T3 ... T6 Gb CCC Dust: Ex mb tb IIIC T200°C ... T85°C Db	IP66/IP67	238614-058	238714-006	05
VC [1]	55	23	10.5	9/11.2	-40 to +60	None Ex-proof	IP66/IP67	238610-058	238710-006	06
Reduced Power (RP)										
LK	-	-	-	3.2/3.2	-40 to +67@T5 / +45@T6	CCC Gas: Ex db IIC T5 ... T6 Gb CCC Dust: Ex tb IIIC T85°C ... T100°C Db	IP66/IP67	-	- [2]	08
Low Power (LP)										
JPIS	-	-	-	0.48/0.48	-40 to +65	CCC Gas: Ex ia IIC T6 Ga CCC Dust: Ex ia IIIC T85°C Da	IP66/IP67	-	298008-002	02
EF	-	-	-	1.7/1.7	-40 to +60 @T6	CCC Gas: Ex mb IIC T3 ... T6 Gb CCC Dust: Ex mb IIIC T85°C ... T200°C Db	IP66/IP67	-	238714-902	03
VCEF	-	-	-	1.7/1.7	-40 to +60 @T6	CCC Gas: Ex db mb IIC T3 ... T6 Gb CCC Dust: Ex mb tb IIIC T200°C ... T85°C Db	IP66/IP67	-	238714-902	05
VC [1]	-	-	-	1.7/1.7	-40 to +60	None Ex-proof	IP66/IP67	-	238710-902	06
LPKF	-	-	-	2/2	-40 to +65@T5 / +40@T6	CCC Gas: Ex db IIB + H2 T4 ... T6 Gb CCC Dust: Ex tb IIIC T85°C ... T135°C Db	IP66/IP67	-	- [2]	07

(1) Redhat II Standard Coil with VC Junction Box
(2) Please contact ASCO China for coil replacement

Additional Options

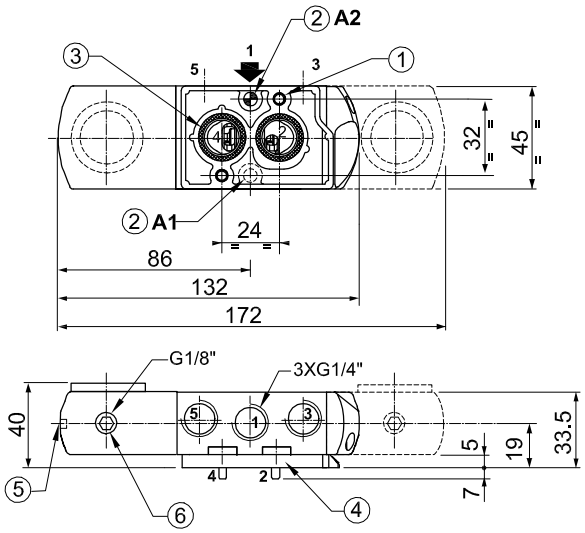
- Valve configured for external pilot air supply, TPL 20547
- Prefix REDHAT II solenoid cable can be supplied with various length (Consult ASCO Office)
- Prefix VC / VCEF is provided with a standard 1/2 NPT threaded entry hole and supply without cable gland. Optional M20 (VC*P / VCEF*P)

Installation

- Installation/maintenance instructions are included with each valve
- The solenoid valves can be mounted in any position without affecting operation
- It is necessary to connect pipes or fittings to the exhaust ports to protect the internal parts of the spool valve and its pneumatic operator if used outside or in harsh environments (dusts, liquids etc.)
- "NAMUR" style spool valve supplied with two interface plates with NAMUR mating surfaces. Depending on function (NC 3/2 or 5/2), position one of the two plates on the spool valve body before installing on actuator

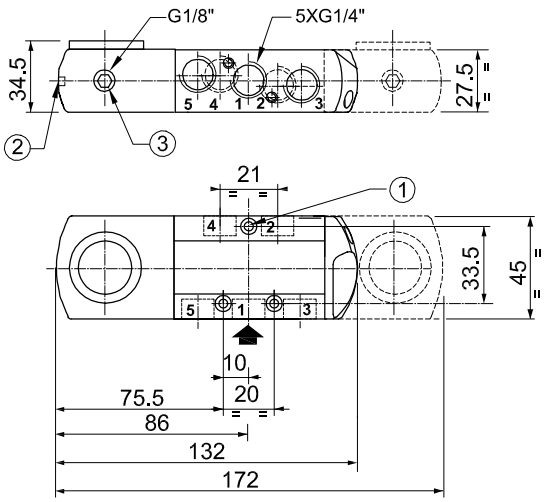
Dimensions: mm

Series 531 Namur 3/2 - 5/2 Way



2 mounting holes:
① 5.3 mm dia.(Spotfaclng: 9 mm dia., depth 5 mm)
② One 5 mm dia.hole for dowel pin:
-in position A1: 3/2 NC function plate
-in position A2: 5/2 function plate
③ 2 O-ring seals(supplied)
④ Interface plate
⑤ Manual operator location
⑥ External pilot air supply, 1/8 pipe size

Series 531 Threaded 5/2 Way



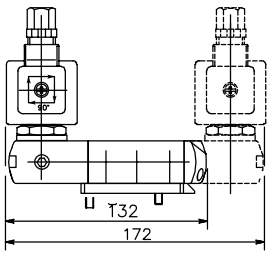
① 3 mounting holes: 4.2 mm dia.
② Manual operator location
③ External pilot air supply, 1/8 pipe size

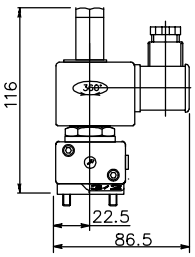
Dimensions: mm

Series 531 Namur 3/2 - 5/2 Way



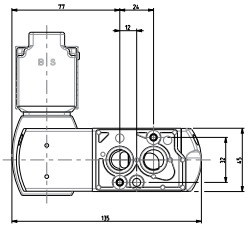
TYPE 01: Prefix SC
Basic power
Epoxy moulded
IP65
❖531B401 MO / ❖531B402 MO

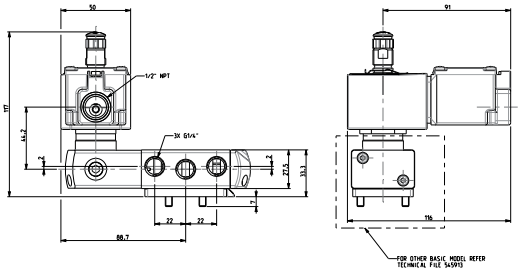


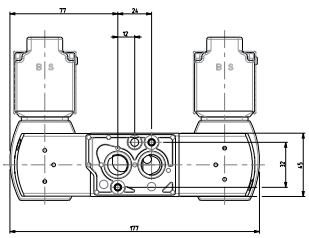


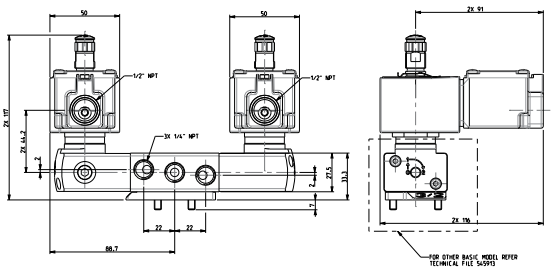


TYPE 02: Prefix JPIS
Low power
Epoxy moulded
CCC Ex ia IIC T6, IP67
❖531B301 MO / ❖531B302 MO









Dimensions: mm

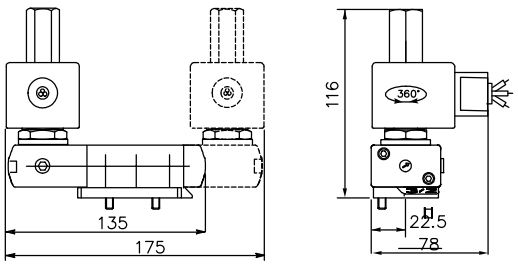
Series 531 Namur 3/2 - 5/2 Way

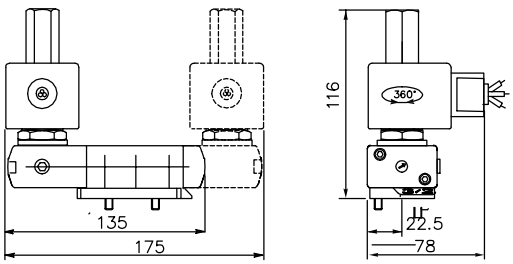


TYPE 03: Prefix EF
Basic power/Low power
Epoxy encapsulated REDHAT II explosion proof solenoid
ICS-6 ANSI/NEMA 7&9/CCC Ex m II T3-T6
❖531H401 MO, ❖531H402 MO
❖531H301 MO, ❖531H302 MO



TYPE 04: No Prefix
Basic power/Low power
Epoxy encapsulated REDHAT II solenoid
NEMA 4 & 4X
❖531H401 MO / ❖531H402 MO
❖531H301 MO / ❖531H302 MO



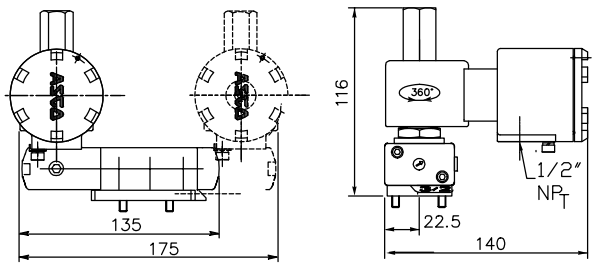


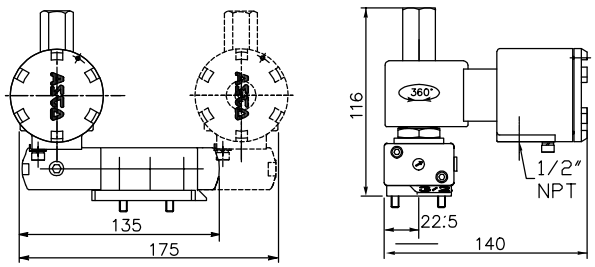


TYPE 05: Prefix VCEF
Basic power/Low power
Epoxy encapsulated REDHAT II explosion proof solenoid with aluminum VC junction box
NEMA 7 & 9*/CCC Ex md IIC T3-T6 / IP67
❖531H401 MO / ❖531H402 MO
❖531H301 MO / ❖531H302 MO
*Applicable to solenoid only



TYPE 06: Prefix VC
Basic power/Low power
Epoxy encapsulated REDHAT II standard solenoid with aluminum VC junction box
NEMA 4 & 4X*
❖531H401 MO / ❖531H402 MO
❖531H301 MO / ❖531H302 MO
*Applicable to solenoid only





Dimensions: mm

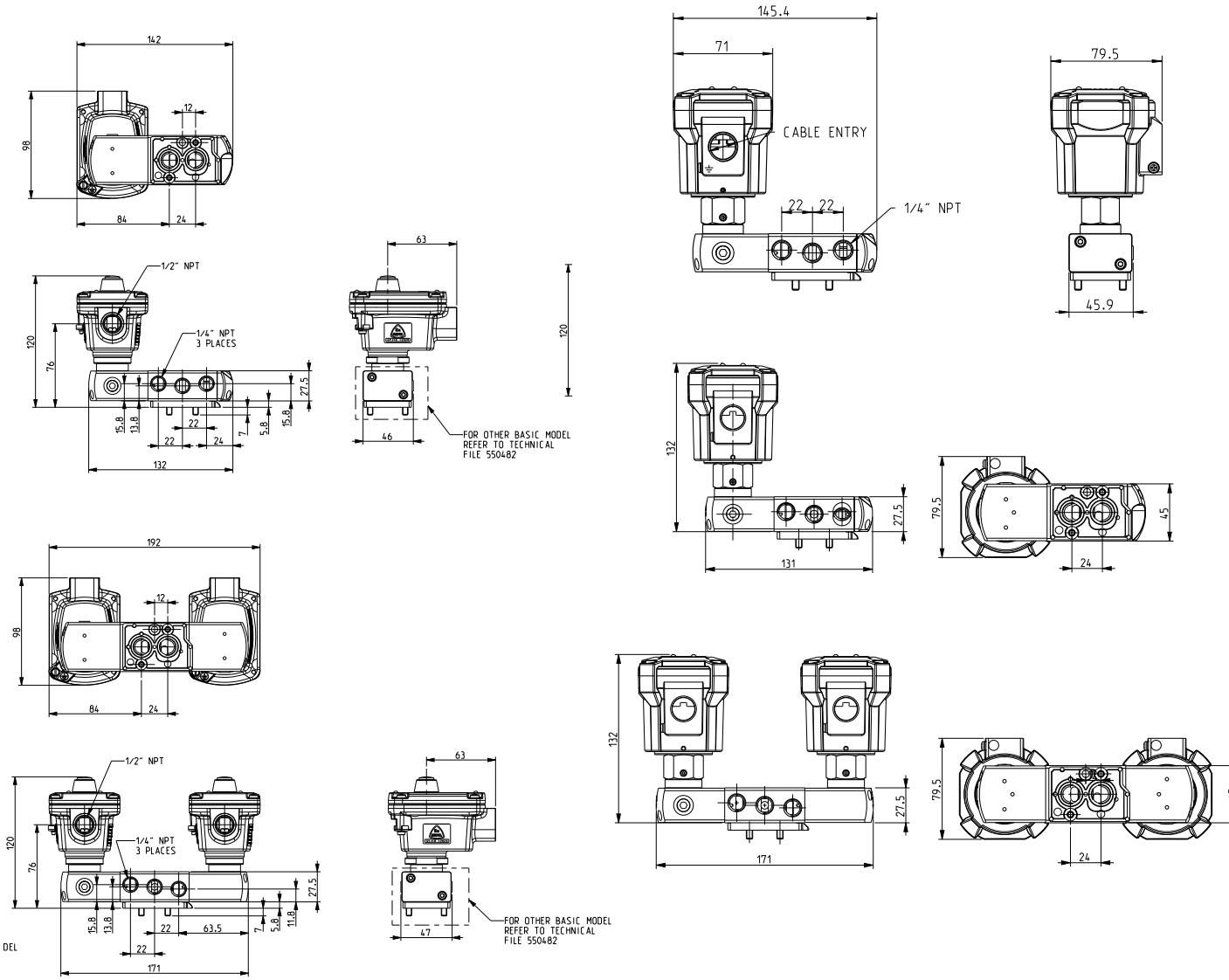
Series 531 Namur 3/2 - 5/2 Way



TYPE 07: Prefix LPKF
Low power
Aluminum Flameproof Enclosure
CCC Ex d IIB+H2 T4 ~ T6 Gb
❖531B301 MO / ❖531B302 MO
*Applicable to solenoid only



TYPE 08: Prefix LK
Reduced Power
Aluminum Flameproof Enclosure
CCC Ex d IIC T5~T6 Gb
❖531B701/702 MO / ❖531B717/718 MO
* Applicable to solenoid ONLY



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Availability, design and specifications are subject to change without notice.
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