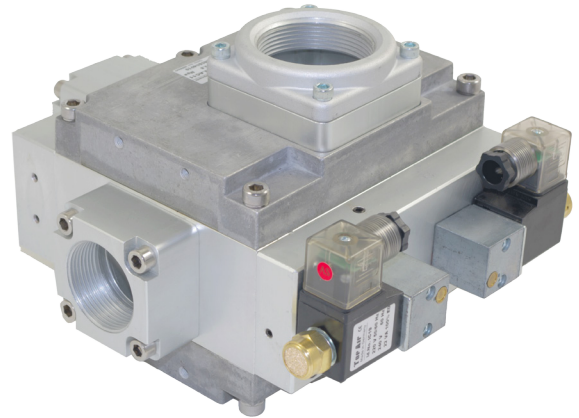


The TOPiC series DVX features a built-in dynamic failure detection system that is self checking on every cycle and interrupts pilot supply air when a failure occurs without reliance on a spool or stem actuated sensor. Additionally the monitor system is located with the main valve body, making it virtually tamper resistant.



### VALVE ENERGIZED

The DVX is designed to provide full outlet pressure only when both valve elements are operated. Inlet passages provides supply air between the two inlet elements. If only one element operates, or if one is stuck in the operated position, the air will exhaust to the atmosphere.

### VALVE DE-ENERGIZED

Oversize exhaust poppets, in parallel, assure rapid exhaust of downstream air through both poppets, or only one if the other is still closed. These large exhaust poppets of inlet air provide a predictable exhaust capacity.

### LONG CYCLE LIFE

Operating poppets are constructed of metal and reinforced plastic. TOP AIR valves are designed to provide millions of trouble-free cycles with filtered air that is either lubricated or non-lubricated.

### CYCLIC PRESSURE MONITORING

If both valve elements do not operate concurrently a unique self-checking pilot control is designed to inhibit operation of the second element. This self-checking function on every cycle is an integral part of the valve design between main dynamic self-checking system gives greater assurance of detecting and inhibiting further operation when such a failure occurs.

## Features of the DVX Double Valve

1. Based on our experience in the involvement in press machine. We have achieved a higher response and reliability on products.
2. Corresponding DIN standard, new type of solenoid ensures waterprofness of IP67 with its coil block and reduces by over 30% electric energy consumption.
3. A wide variety of valves for air clutch and brake control is available for small, medium, large sized presser as well as high-speed prsres.
4. Exhaust-featured and quick response valve makes it possible to obtain a stable and acute stop angle.
5. Optional manual override button makes it easy to do mauntevancl work.

DVX 15

DVX 20

MA 中国机械工业质量认证中心  
CNACL No. 0398  
No DF-6-S

### 检验报告

产品名称: DVX15 型三口二位双线圈电磁阀  
受检单位: 达英企业有限公司  
检验类别: 委托检验  
国家铸造锻压机械质量监督检验中心

MA 中国机械工业质量认证中心  
CNACL No. 0398  
No DF-7-S

### 检验报告

产品名称: DVX20 型三口二位双线圈电磁阀  
受检单位: 达英企业有限公司  
检验类别: 委托检验  
国家铸造锻压机械质量监督检验中心

国家铸造锻压机械质量监督检验中心  
检验报告  
No:DF-6-S 共2页第1页

产品名称	DVX15 型三口二位双线圈电磁阀	规格	2094006
生产日期	2003年4月	检验类别	委托检验
受检单位	达英企业有限公司	样品名称	合格品
单位地址	台北中敦北路244号43号	样品数量	1台
生产企业	达英企业有限公司	检验日期	2003年7月1日
企业地址	台北中敦北路244号43号	检验项目	五项
检验地点	上海中威科技有限公司	检验日期	2003年6月18日
检验日期	2003年7月1日	检验地点	上海中威科技有限公司

检验结论: 合格

检验员: 董文峰 审核: 郭永平 主检: 袁程

检验结果汇总:

序号	检测项目	标准要求及标准条款号	实测结果	本项结论	备注
一	最低工作压力	在额定工作压力下, 调整线圈, 使线圈通电三次, 取平均值, 最低工作压力为0.35MPa。	最低工作压力为: 0.20MPa。	符合	
二	密封试验	在额定工作压力下, 调整线圈, 使线圈通电三次, 取平均值, 最低工作压力为0.35MPa。	密封试验合格。	符合	
三	线圈电阻	在额定工作压力下, 调整线圈, 使线圈通电三次, 取平均值, 最低工作压力为0.35MPa。	线圈电阻合格。	符合	
四	电气性能	按 GB5226.1-1996 标准进行以下试验: a. 绝缘电阻: 4000Ω; b. I <sub>14V</sub> - 秒种耐压试验, 未击穿。	符合	符合	
五	可靠性	在规定的压力 (0.5 MPa) 和电压 (220V) 下, 按下列规定的次数进行通断试验, 并记录其通断次数及故障率。	通断次数: 72 min/次, 符合	符合	增加行次数, 每次 10min

国家铸造锻压机械质量监督检验中心  
检验报告  
No:DF-7-S 共2页第1页

产品名称	DVX20 型三口二位双线圈电磁阀	规格	2094007
生产日期	2003年4月	检验类别	委托检验
受检单位	达英企业有限公司	样品名称	合格品
单位地址	台北中敦北路244号43号	样品数量	1台
生产企业	达英企业有限公司	检验日期	2003年6月18日
企业地址	台北中敦北路244号43号	检验地点	上海中威科技有限公司
检验日期	2003年7月1日	检验项目	五项

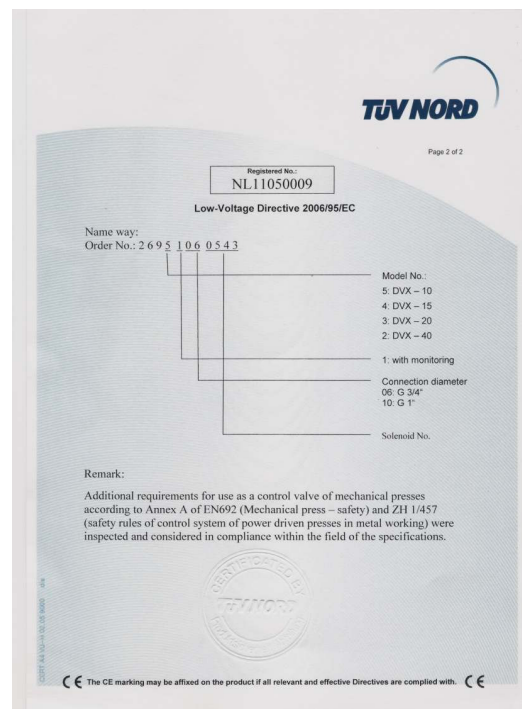
检验结论: 合格

检验员: 董文峰 审核: 郭永平 主检: 袁程

检验结果汇总:

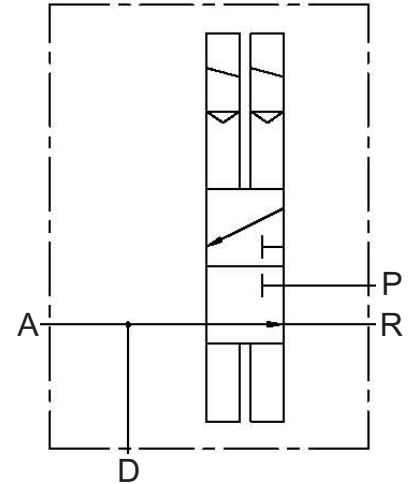
序号	检测项目	标准要求及标准条款号	实测结果	本项结论	备注
一	最低工作压力	在额定工作压力下, 调整线圈, 使线圈通电三次, 取平均值, 最低工作压力为0.35MPa。	最低工作压力为: 0.20MPa。	符合	
二	密封试验	在额定工作压力下, 调整线圈, 使线圈通电三次, 取平均值, 最低工作压力为0.35MPa。	密封试验合格。	符合	
三	线圈电阻	在额定工作压力下, 调整线圈, 使线圈通电三次, 取平均值, 最低工作压力为0.35MPa。	线圈电阻合格。	符合	
四	电气性能	按 GB5226.1-1996 标准进行以下试验: a. 绝缘电阻: 4000Ω; b. I <sub>14V</sub> - 秒种耐压试验, 未击穿。	符合	符合	
五	可靠性	在规定的压力 (0.5 MPa) 和电压 (220V) 下, 按下列规定的次数进行通断试验, 并记录其通断次数及故障率。	通断次数: 72 min/次, 符合	符合	增加行次数, 每次 10min

DVX series



**Technical data**

Actuation :		Solenoid pilot operated
Design :		Piston seat valve
Fluid :		Filtered air, lubricated <sup>1)</sup> or unlubricated
Temperature range :		-10 °C to +60°C ( +14 °F ~ +140 °F )
Mounting position :		Upright
Cyclic Mounting :		Internal
Monitor System :	DVX-15	The monitor uses two opposite sensor to check valve function. The performance of valve will be showed by sensor signal. ( Notice : The monitor must be far away from the magnet material )
	DVX-20	
	DVX-40	The monitor uses pressure switch to check air pressure and check pressure inside valve body.



**Reference Information**

Type	Pipe connection			Flow Rate		Weight [kg]
	P	A	R	P-A [mm <sup>2</sup> ]	A-R [mm <sup>2</sup> ]	
DVX15	G 1/2"	G 1/2"	Customer Choice	78.5	452.0	2.1
	G 3/4"	G 3/4"			551.0	
DVX20	G 3/4"	G 3/4"		410.0	613.0	4.1
	G 1"	G 1"			747.0	
DVX40	G 1 1/4"	G 1 1/4"		438.0	1844.0	8.4
	G 1 1/2"	G 1 1/2"				

1) Oil recommendation : Shell Hydrol Do 32, Esso Fedis K32 (a32 of July 1992), or comparable oils with DVI values <8(DIN 532521)> and ISO-ciscosity class 32-46 (DIN 51519).

## Valve Installation Hints

Install double valve as close as possible to the brake or clutch. For safety reasons it is essential not to install another element between the double valve and the brake or clutch. Remove dust covers from the port connections.

Care must be exercised to avoid particles like metal chips, sealing compounds or scale in the piping, which may cause valve failure. The size of the pressure reduction valves, lubricators and filters must be consistent with the port size "P". An accumulator is recommended between the pressure regulator and the double valve. The operating pressure must not drop below 3 bar (use pressure switch).

The contacts of any electrical pressure switches monitoring the pressure ports can be wired to the press control loop. This provides an additional safety circuit to the inherent lockout feature of the valve.

## Testing After Installation

Every installation of a press double valve should be checked using the following procedure :

Test Fluid : Compressed Air

Test Pressure : 3 and 8 bar

DC Solenoids : Rated voltage  $\pm 10\%$

AC Solenoids : Rated voltage  $\pm 10\%$

## Testing Procedures

1. Hook up pressure of 3 bar at connection P and close off Port A.
  2. Operate a minimum of 5 cycles at 2 bar (3 bar).
  3. Energize only solenoid YB. No pressure can build up on Port A.
  4. Energize solenoid YA and YB with a delay of 30 ms. Results are the same as in 3.
  5. Only energize solenoid YB. Same results as in 3.
  6. Solenoid YA and solenoid YB is energized. De-energize solenoid YA. Same results as in 3.
  7. Solenoid YA and solenoid YB is energized. De-energize solenoid YB. Same results as in 3.
- \* Re-test at 8 bar ( Repeat steps 1 to 7 )

NOTE : YA refers to left hand solenoid and YB refers to right hand solenoid.

## Warning

If a valve fails to operate properly and does not resume operation when the press controls are reset it should be removed immediately from service.

TOP AIR recommends that any repair work, required on the double valve, be performed by TOP AIR Inc.

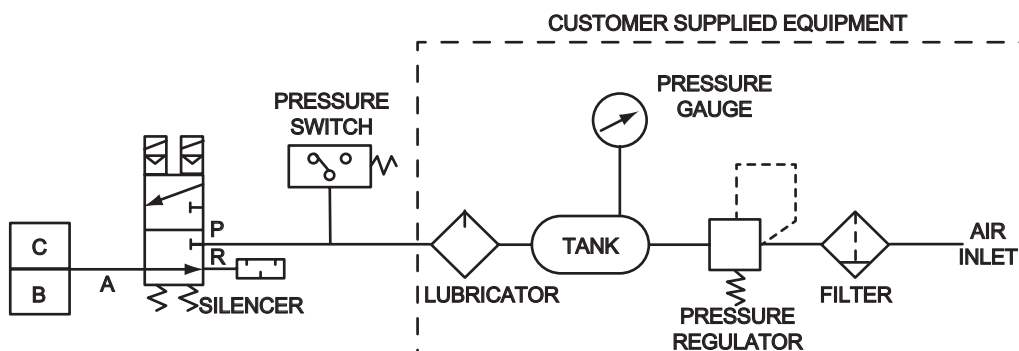


Fig. Typical installation with combined brake and clutch.

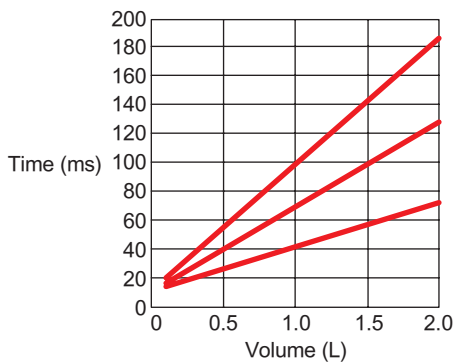


### How to Order

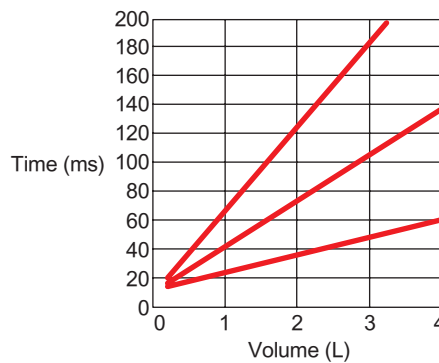
2694	0	06	—	0543	AC220V	—	G1"
Type	Model	Connection Port		Coil Number	Voltage		Exhaust Port
	0 : W/O Mornitor and Override 1 : With Mornitor(CE) 2 : With Override 3 : With Mornitor and Override	06 : G 1/2" 10 : G 3/4"		0558 0543 (CE)	DC 24V AC 110V AC 220V		G 1/2" G 3/4" G 1" G 1 1/4" G 1 1/2" G 2"

### Discharging chart

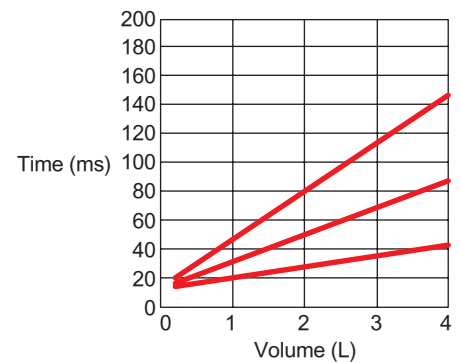
**DVX15  
Pressurization**



**DVX15  
Depressurization  
(P,A port G1/2)**



**DVX15  
Depressurization  
(P,A port G3/4)**



The initial lubrication of wearing pars must be checked according to the working conditions, at least. However, once a year.

## General Description

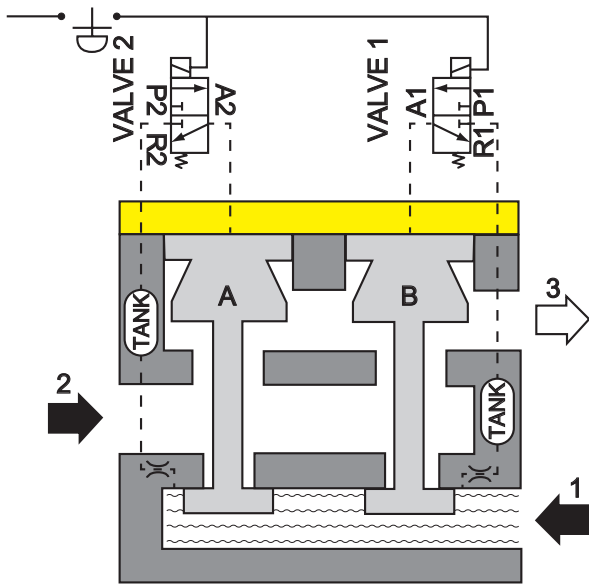
DVX15, DVX20, DVX40 double valve are composed of two sections. 1) The base containing the P (1) & A (2) port which mounts to the machine. 2) The main valve housing contains the main section/poppet assemblies. 3) the solenoid pilot operators. 4) If any parts of the valve break, the air from P and A port will be exhausted by R port, the valve will be stop.

NOTE : For valves with optional electrical monitor, see page 15.

## Functional Operation

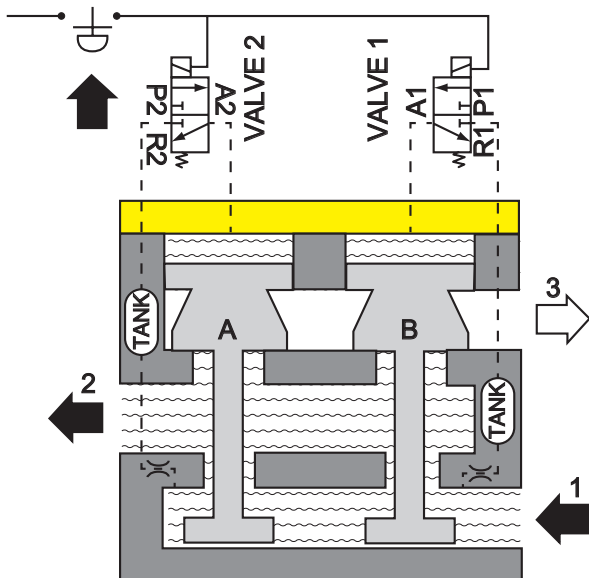
### 1. Normal Operation

At rest valve is normally closed. Inlet air, P(1) is allowed to fill internal volume chambers via a set of control orifices. A port (2) connected to R port (3), exhaust.



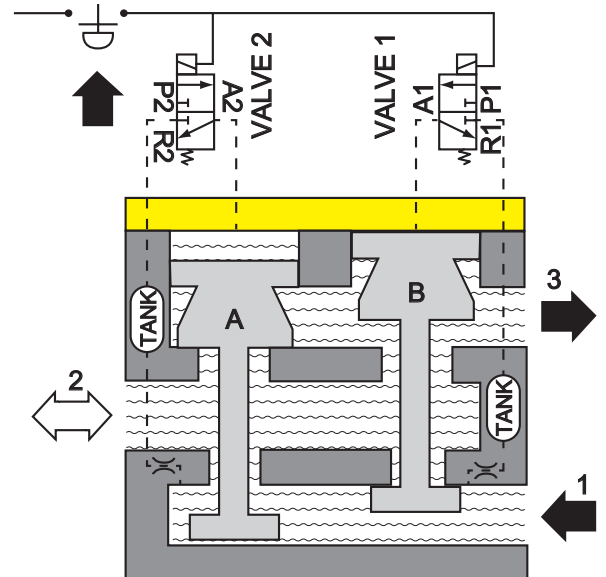
### 2. Energized Operation

Both solenoids are energized. Pilot circuit open allowing volume chambers to actuate main poppets, P port (1) connected to A port (2).



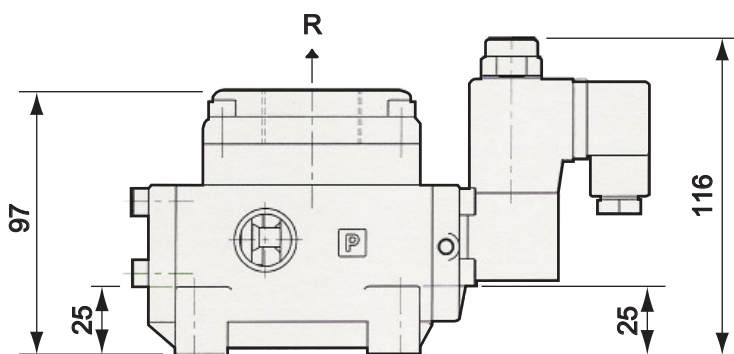
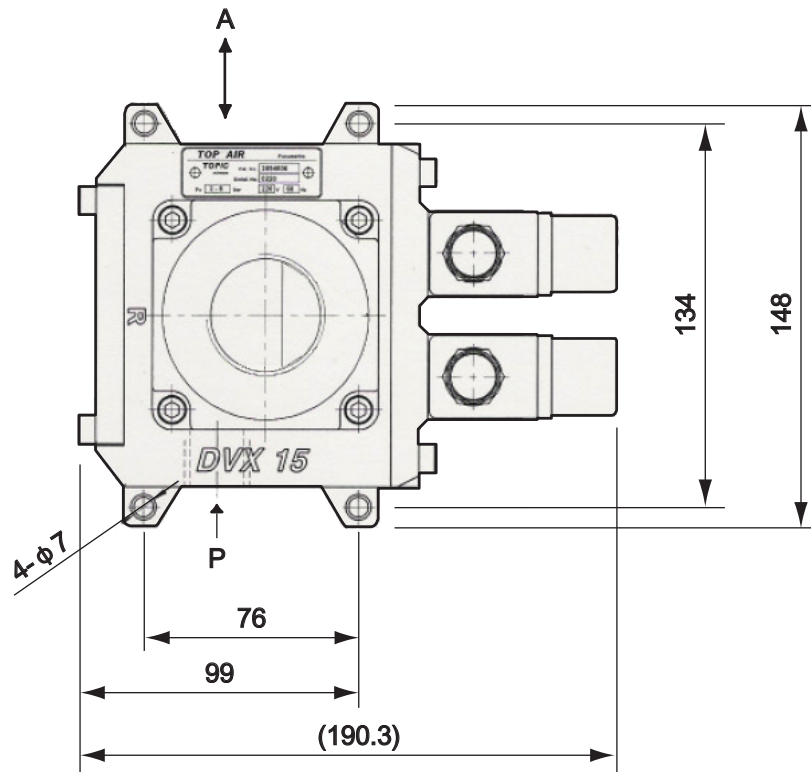
### 3. Malfunction Operation

Regardless of cause ; lack of pressure, electrical failure or internal component breakage, without proper movement of the main poppet, the air volume will through low pressure path and exhaust from "R" (3) port.



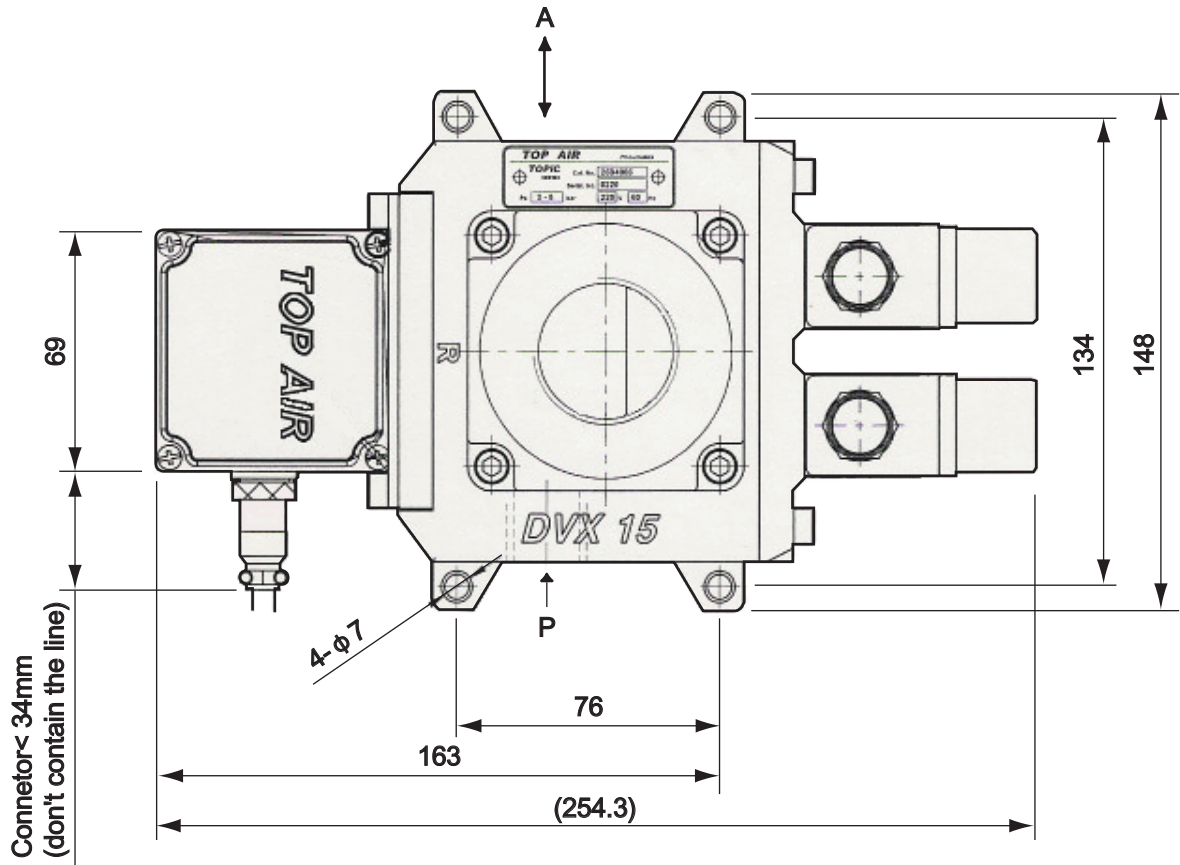
### Dimensional drawings

Cat. No. : 2694006 / 2694010 / 2694206 / 2694210



**Dimensional drawings - 3/2 double valve with Monitor**

Cat. No. : 2694106 / 2694110 / 2694306 / 2694310





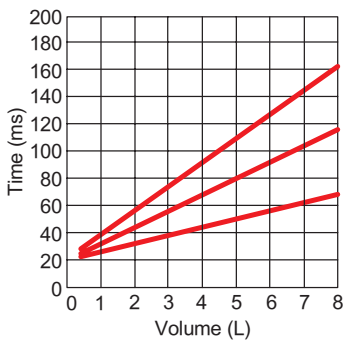


### How to Order

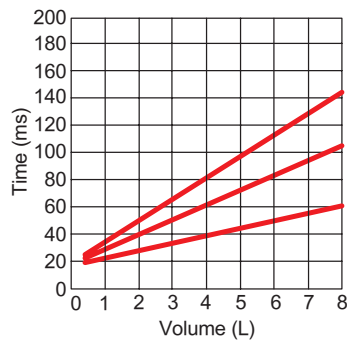
2693	0	06	—	0562	AC220V	—	G1"
Type	Model	Connection Port		Coil Number	Voltage		Exhaust Port
	0 : W/O Mornitor 1 : With Mornitor(CE) 2 : With Override 3 : With Mornitor and Override	06 : G 3/4" 10 : G 1"		0562 0543 (CE)	DC 24V AC 110V AC 220V		G 3/4" G 1" (Recommand) G 1 1/4" (Recommand) G 1 1/2" (Recommand) G 2"

### Discharging chart

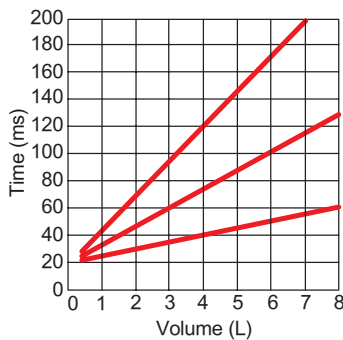
**DVX20**  
Pressurization  
(P, A port G3/4)



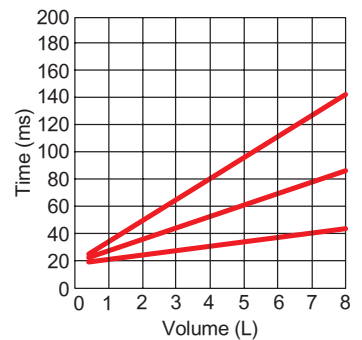
**DVX20**  
Pressurization  
(P, A port G1)



**DVX20**  
Depressurization  
(P, A port G3/4)



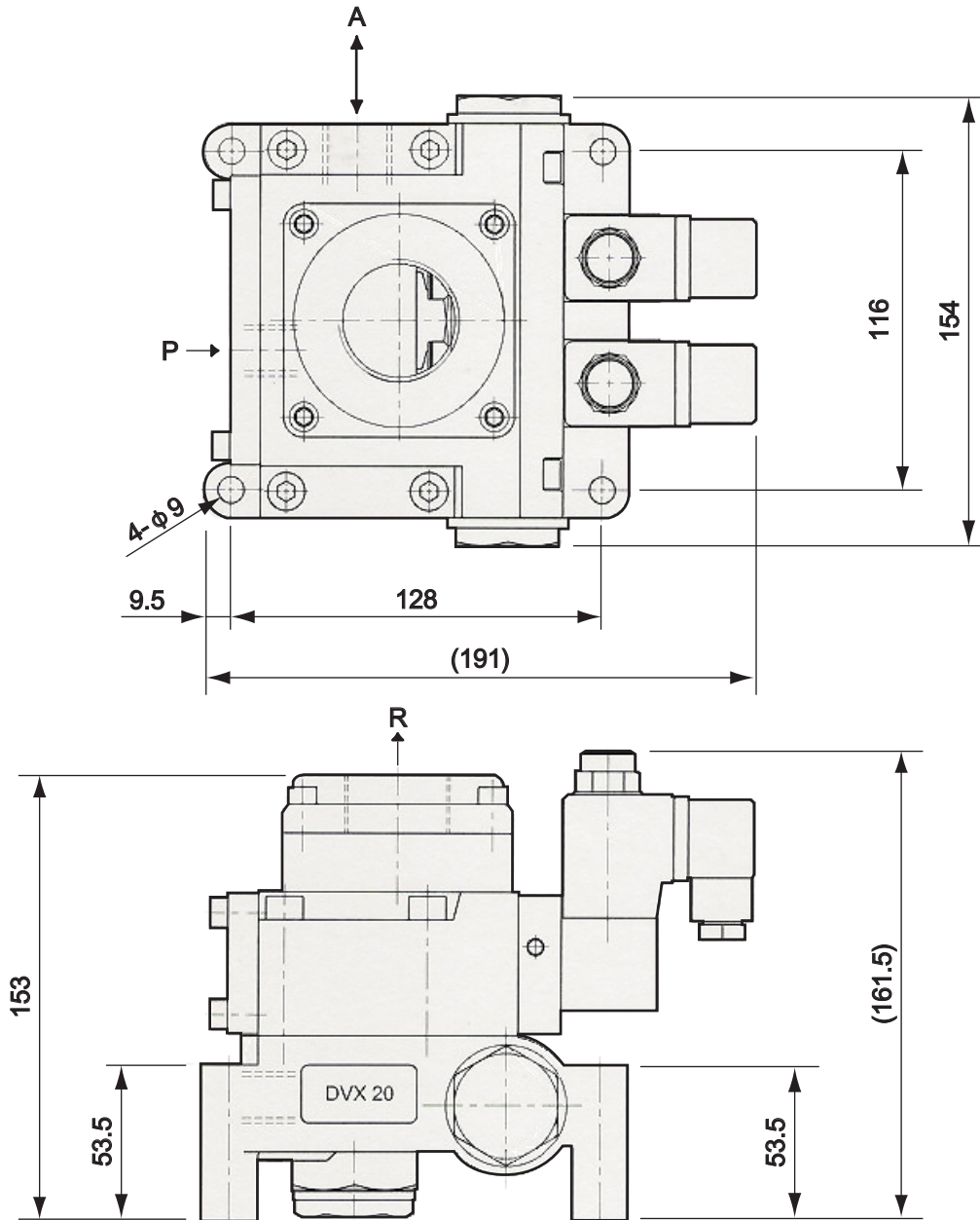
**DVX20**  
Depressurization  
(P, A port G1)



The initial lubrication of wearing pars must be checked according to the working conditions, at least. However, once a year.

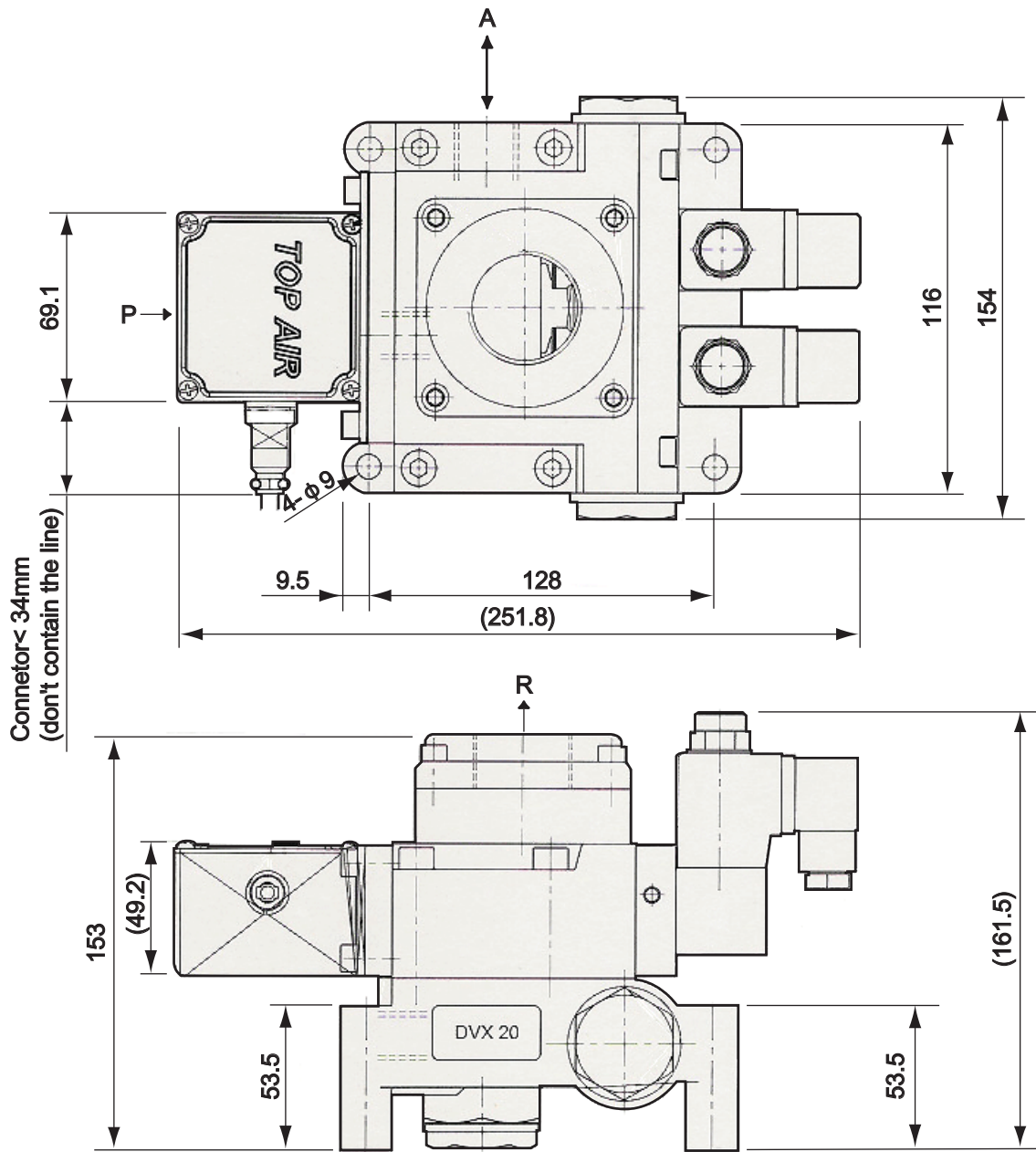
**Dimensional drawings**

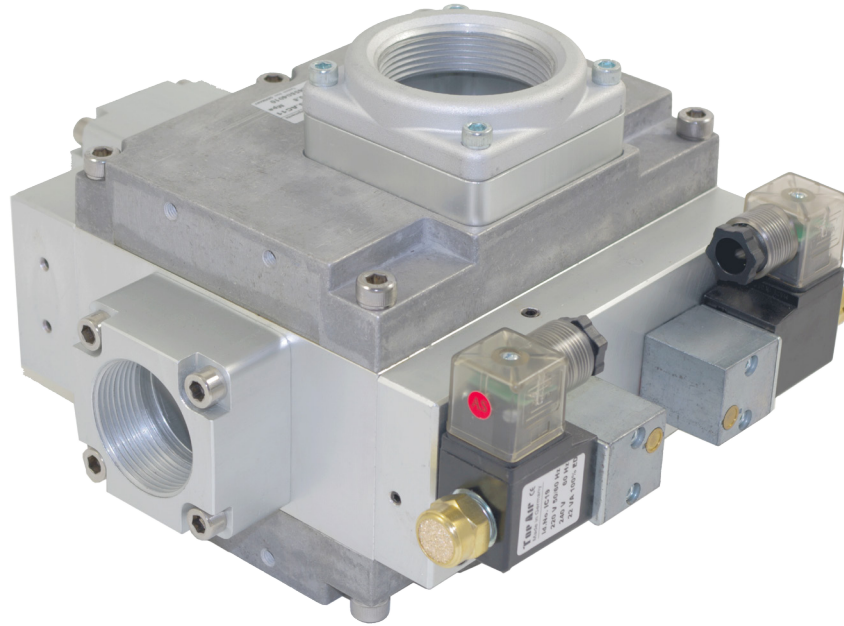
Cat. No. : 2693006 / 2693010 / 2693206 / 2693210



### Dimensional drawings - 3/2 double valve with Monitor

Cat. No. : 2693106 / 2693110 / 2693306 / 2693310

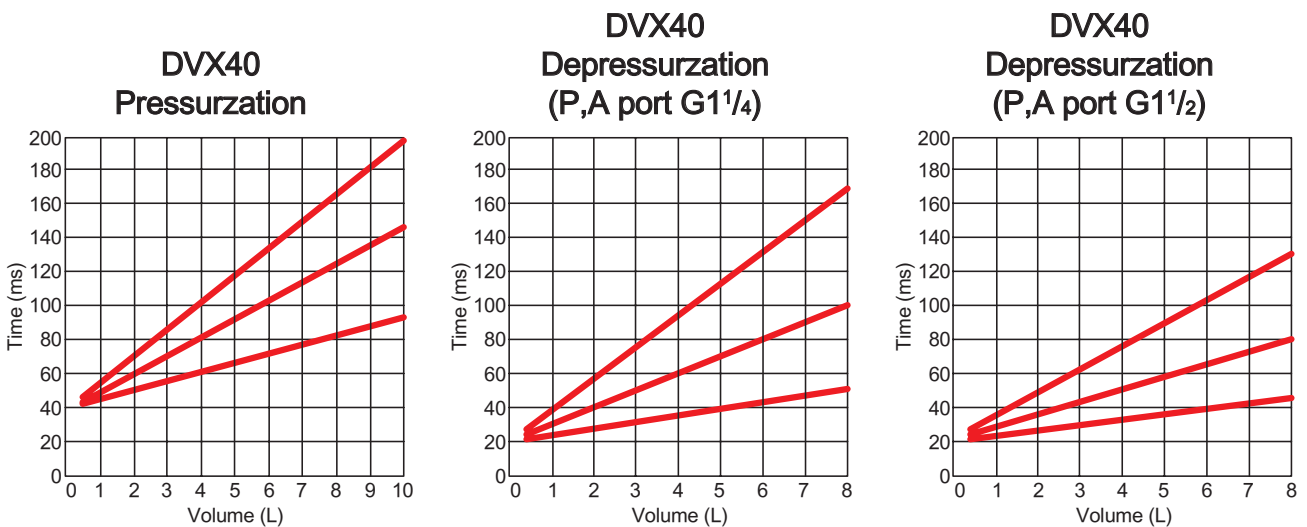




**How to Order**

2692	0	06	—	0543	AC220V	—	G1"
Type	Model	Connection Port		Coil Number	Voltage		Exhaust Port
	0 : W/O Mornitor and Override 1 : With Mornitor(CE) 2 : With Override 3 : With Mornitor and Override	06 : G 1 1/4" 10 : G 1 1/2"		0543	DC 24V AC 110V AC 220V		G 1 1/4" G 1 1/2" G 2" (Recommand)

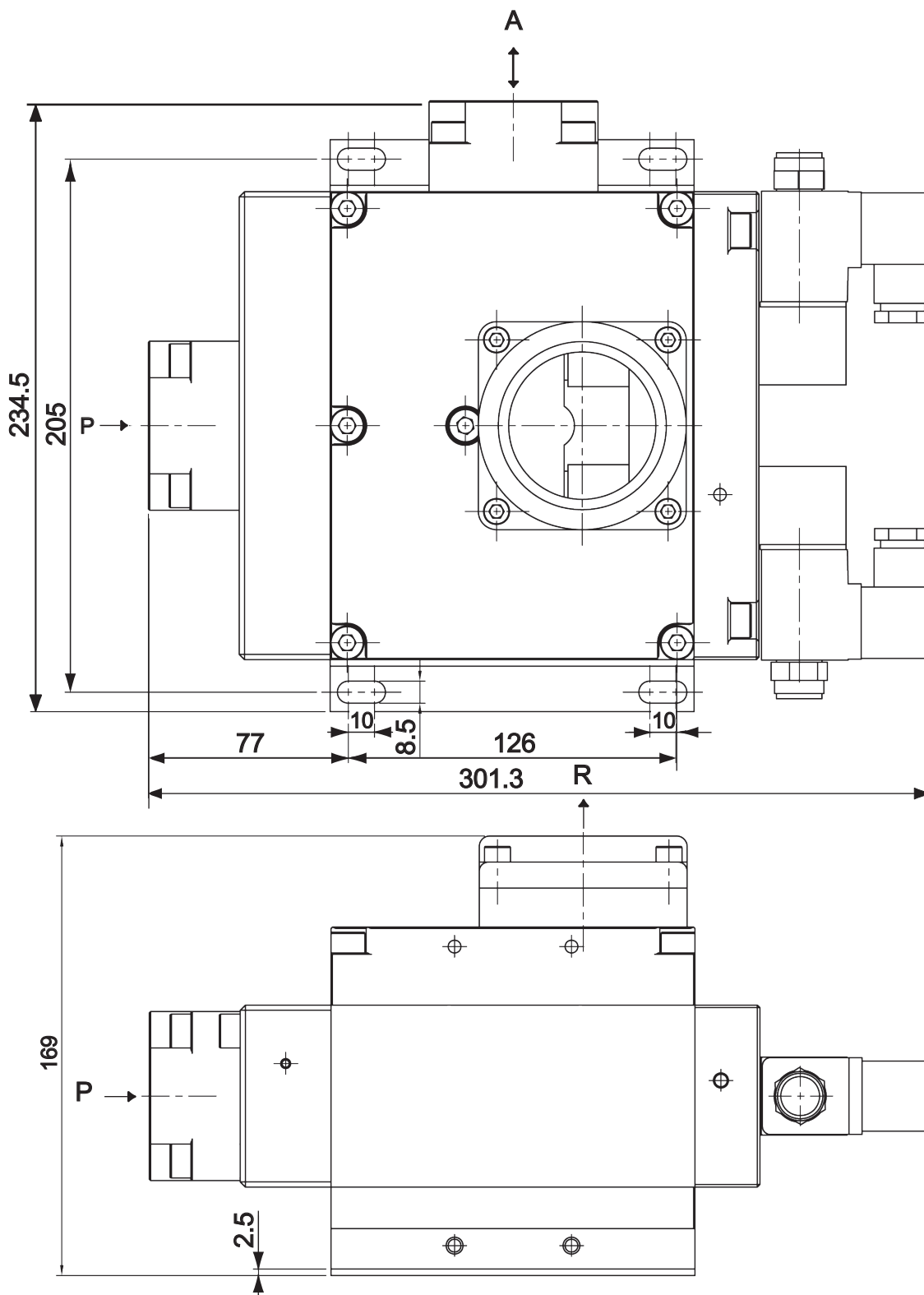
**Discharging chart**



The initial lubrication of wearing parts must be checked according to the working conditions, at least. However, once a year.

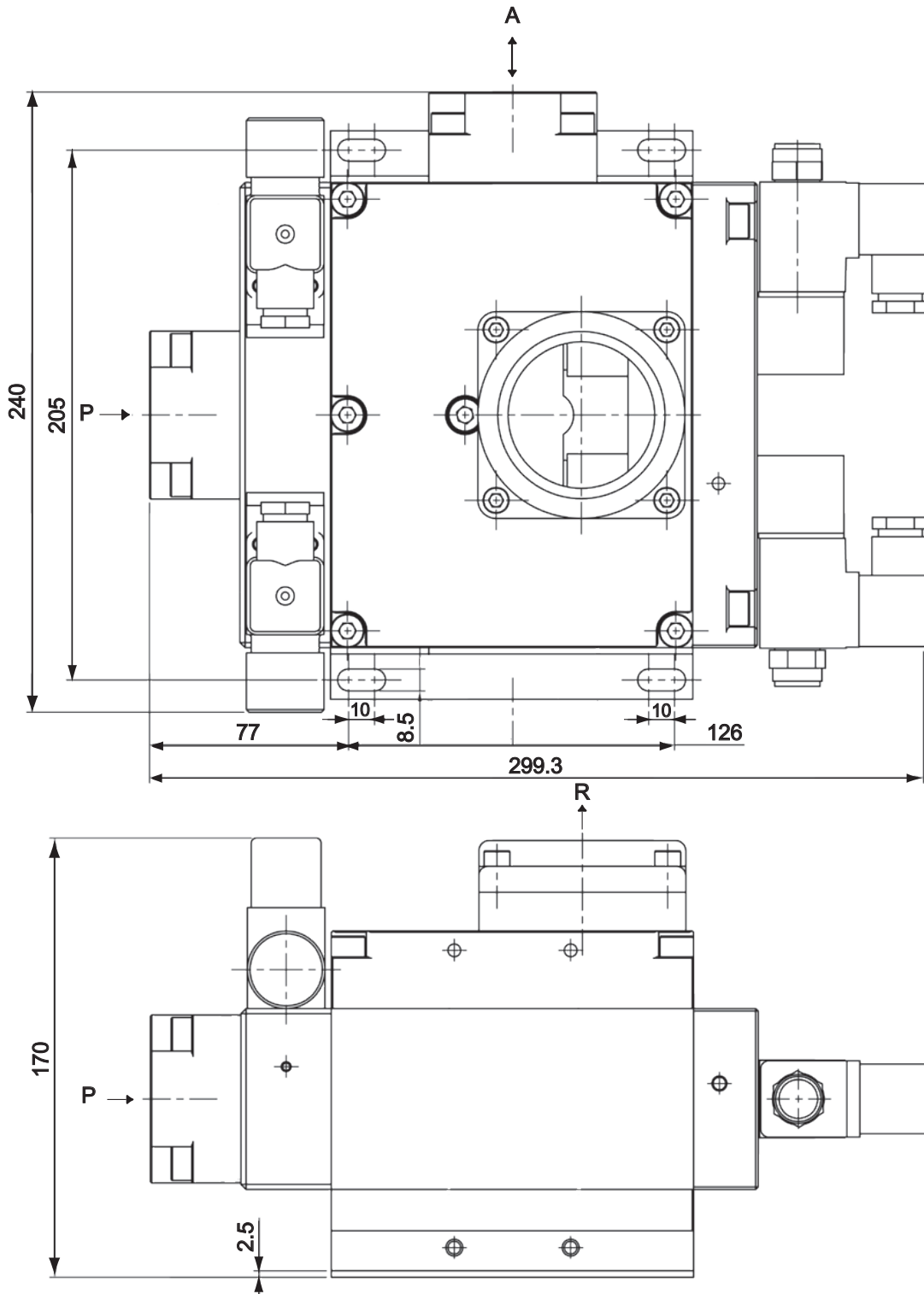
### Dimensional drawings

Cat. No. : 2692006 / 2962010 / 2692206 / 2692210



**Dimensional drawings - 3/2 double valve with Monitor**

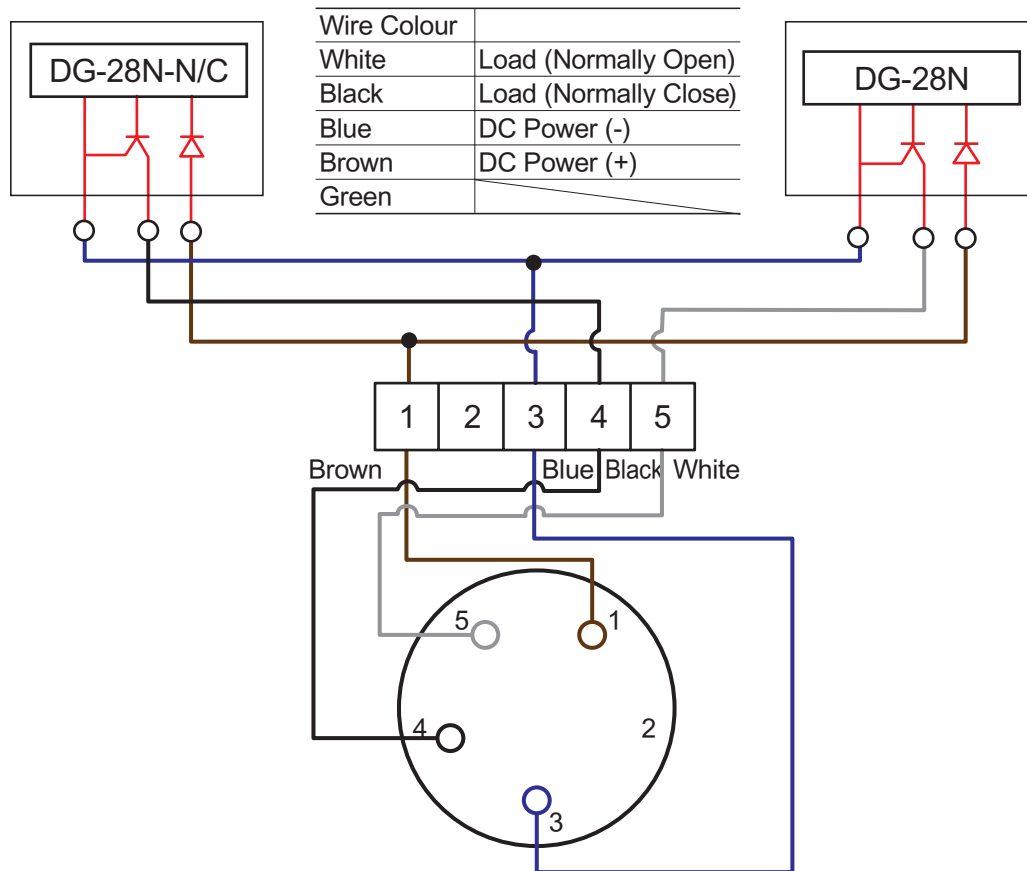
Cat. No. : 2692106 / 2692110 / 2692306 / 2692310



### Sensor Specification

Mode	DG - 28N	DG - 28N - NC
Sensor Type	Soild State Output	
Switching Logic	Normally Open	Normally Close
Output	NPN Current Sinking	
Operating Voltage	5 ~ 30V DC	
Switching Current	100 mA max	
Switching Rating	6 W max	
Current Consumption	18mA@24V max	
Voltage Drop	0.5 V max	
Leakage Current	0.01 mA max	
Indicator	Red LED	
Cable	3.3 ϕ , 3C , PVC	
Sensing Distance *	15 mm	
Temperature Rage	-10 ~ +70°C	
Shock	50 G	
Vibration **	90 m/s' (9G), Double Amplitude 1.5m	
Enclosure Classification	IEC529 IP67	
Protection Circuit	Reverse Polarity , Surge Suppression	
Operating Frequency	50 KHz	

### Monitor Line

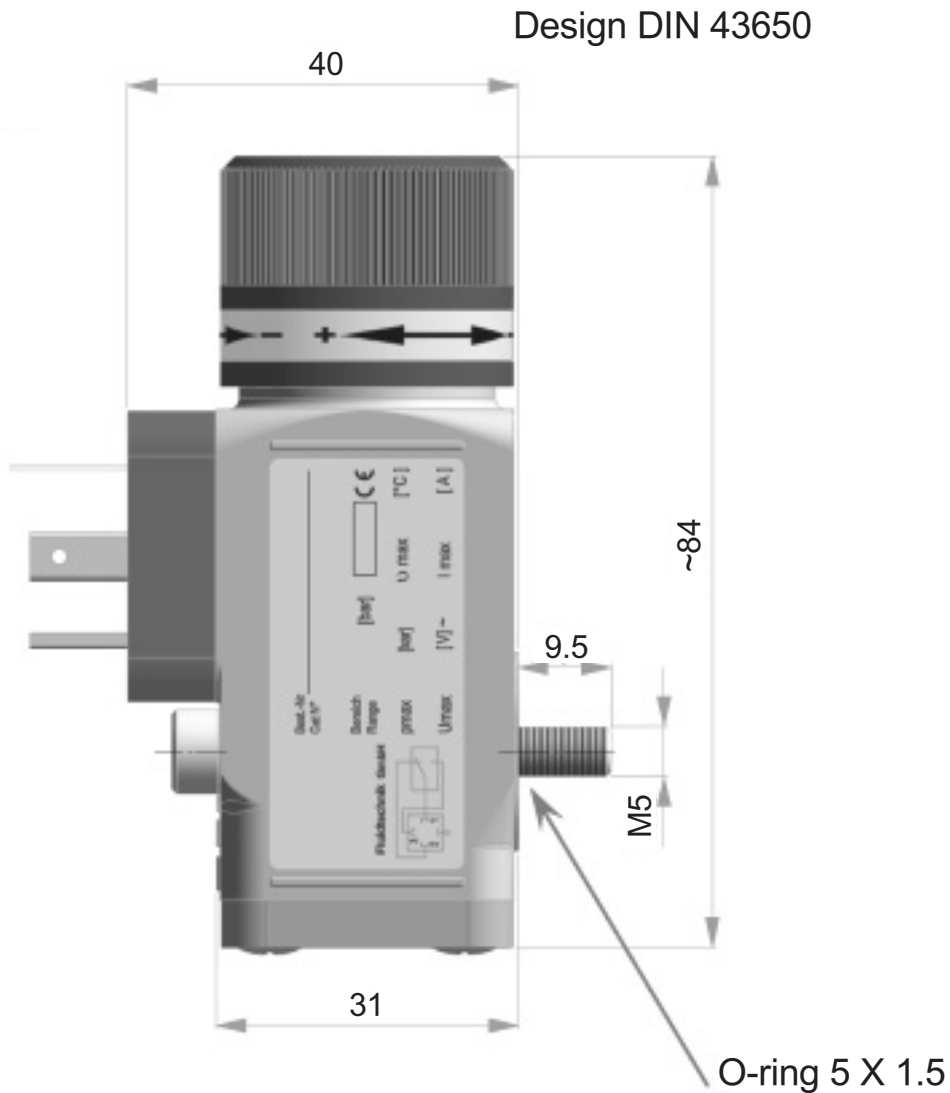


\*. The DVX Monitor Provides an electrical feedback signal via soild state proximity switches which is designed to allow a companson circuit be analyzed by the press control.

\*\* The DVX monitor can be easily added to any existing valve or ordered installed from factory.

**Item No : PDS - 1 - 008 - M - 2 - 1.**

- Prenmatic Pressure Switch
- Change - over - Switch
- Operating Pressure Range : 0.5 ... 8 bar
- Diaphragm Operating
- Fluid Connection : G 1/4"
- Electrical Connection : DIN 43650 , Type A





## Normal Size 15 and 25

8626XXX Poppet valves for line mounting are available with single solenoid pilot control.

Flush flexible manual override buttons are standard on solenoid models.

Easily field-convertible for use with an external pilot supply.

Port size : G1/2 ~ G1

Max. pressure : 10 bar

## Features

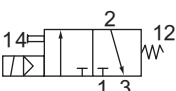
- Linear airflow ensure high flow and responsive
- Simple structure and easy to service design
- With manual override
- Can use external guide with vacuum

## Description (Standard type)

- The valve for filtered oil
- Flow direction : Fixed
- Temperature range : -10°C ~ +60°C
- Material - Body : Aluminum
- Material - Piston seal : PU

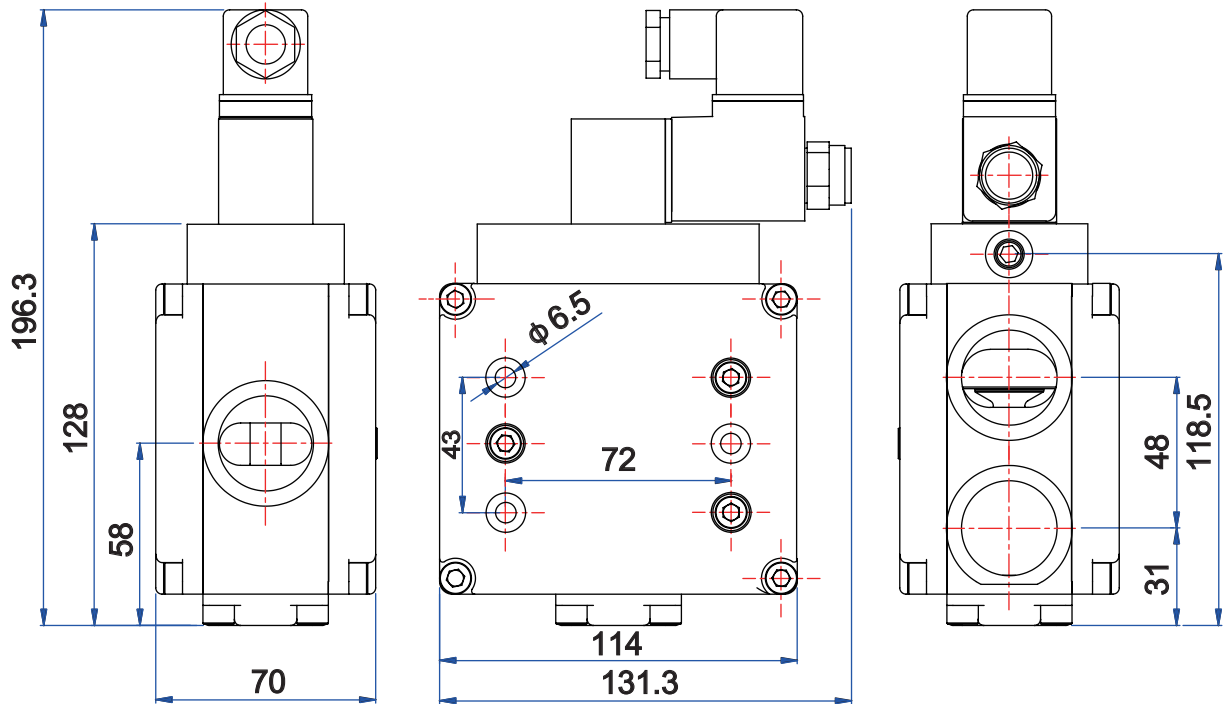


## Parameters

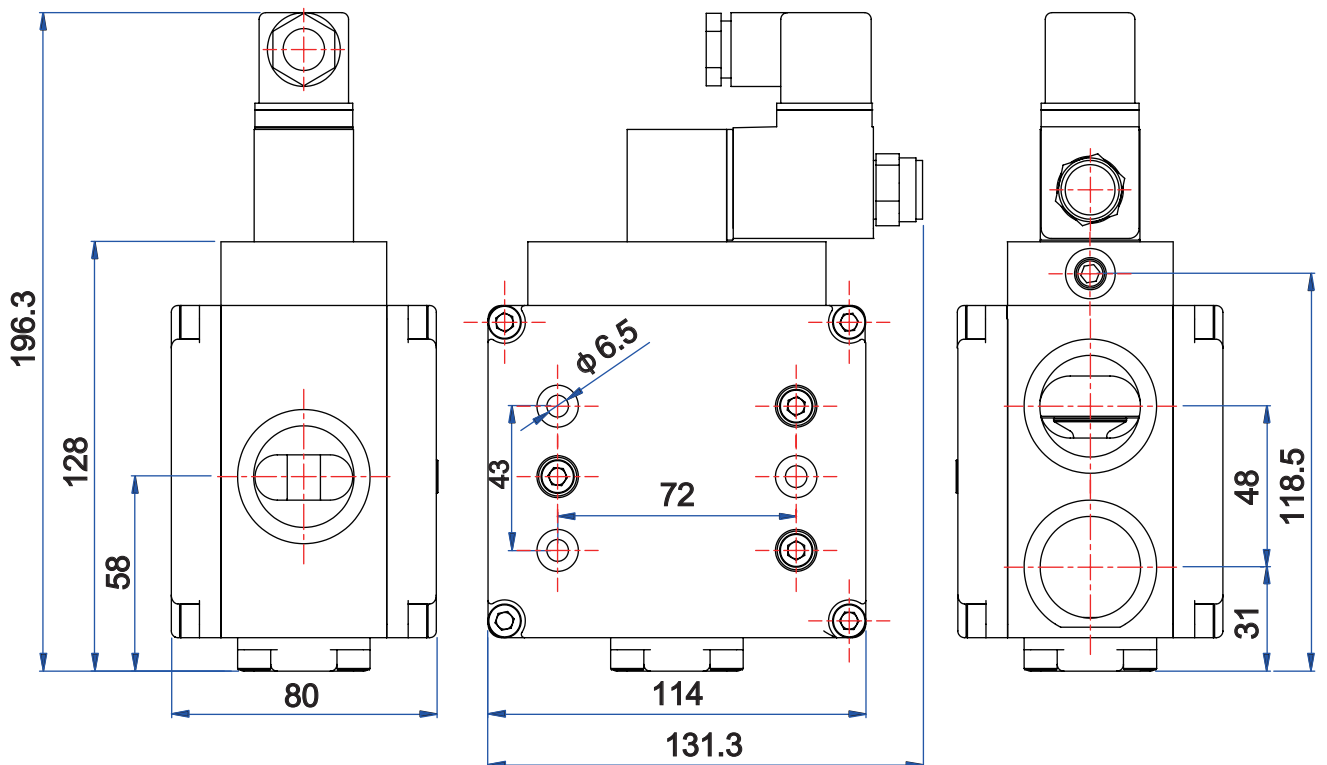
Symbol	Cat. No. Valve	Nominal size (ND)	Port size (G)			Operating pressure[bar]		Effective section area[mm <sup>2</sup> ]		Switching time approx.[ms]	Weight [kg]
			P	A	R	min.	max.	A	R		
	8626660	15	G1/2	G1/2	G3/4	2	10	143	315	10	1.50
	8626670	15	G3/4	G3/4	G3/4	2	10	251	315	10	1.50
	8626760	20	G3/4	G3/4	G1	2	10	251	484.6	20	1.60
	8626770	25	G1	G1	G1	2	10	359	484.6	20	1.60

**Dimensional drawings**

Cat. No. : 8626660 / 8626670

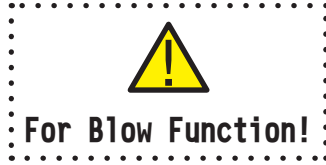


Cat. No. : 8626760 / 8626770



**Norminal Size 7**

Poppet valves, normally closed  
 Port size G1/4, G3/8, G1/2  
 Operating pressure : 10 bar Max.  
 Blow only



**Features**

- Compact design
- Interchangeable solenoid system
- With manual override
- Mounting position optional

**Description (Standard type)**

- Solenoid valve for filtered, lubricator or non-lubricated air
- Temperature range : -10 °C ~ +60 °C
- Material - Body : Aluminum
- Material - Seat Seal : PU



**Further versions available on request**

- Other body-and sealing materials
- Further pressure ranges

**Parameters**

Symbol	Cat. No. Valve	Nominal size (ND)	Port size (G)	Operating pressure[bar]*		Switching time approx.[ms]		Weight [kg]	Solenoid and Connector
				min.	max.	on	off		
	Power consumption 3W (5VA)								
	9032860	7	G1/4	1.5	10	18	20	0.25	See solenoid and connector table
	9032960	7	G3/8	1.5	10	18	20	0.25	
9032060	12	G1/2	1.5	10	18	20	0.25		

\* At pressure of 6 bar to VDI 3290, with DC type solenoid  
 • Option : Flat Manual override  
 • Part 2 don't commit to load and plug.

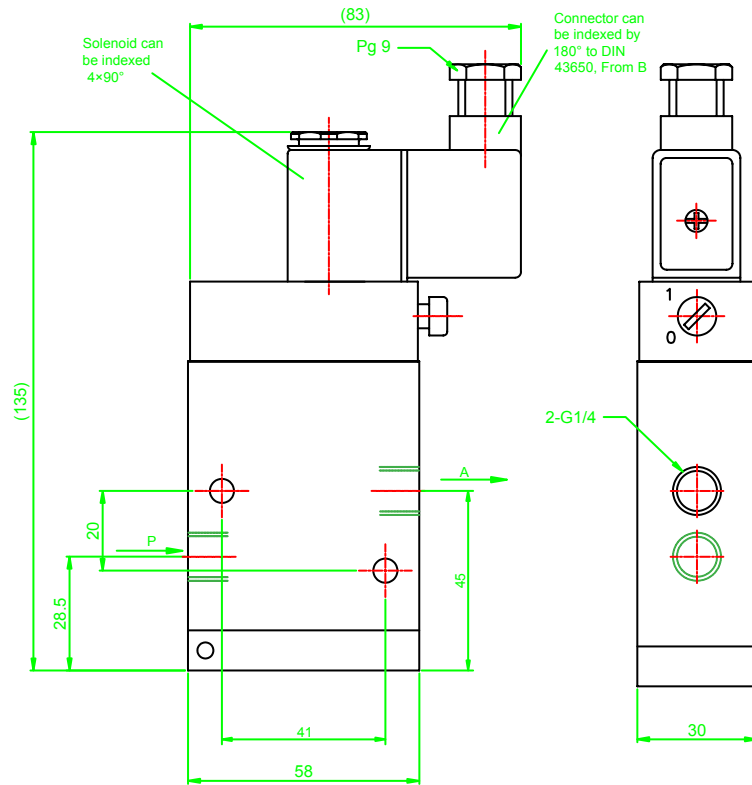
**How to Order**

example : 9032860 · 3052 · DC24V X 5

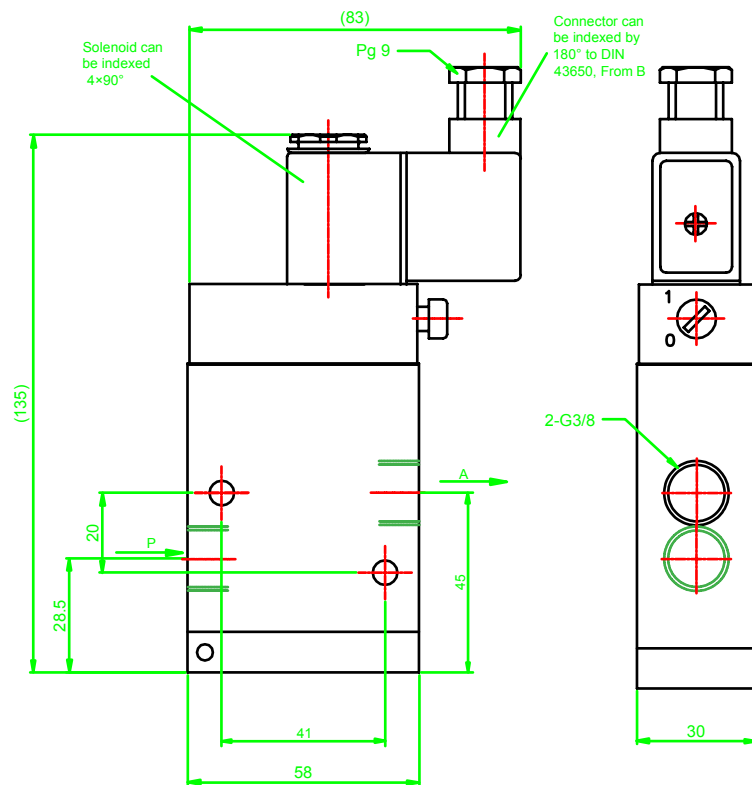
Valve
Solenoid
Voltage
Quantity

**Dimensional drawings**

Cat. No. : 9032860

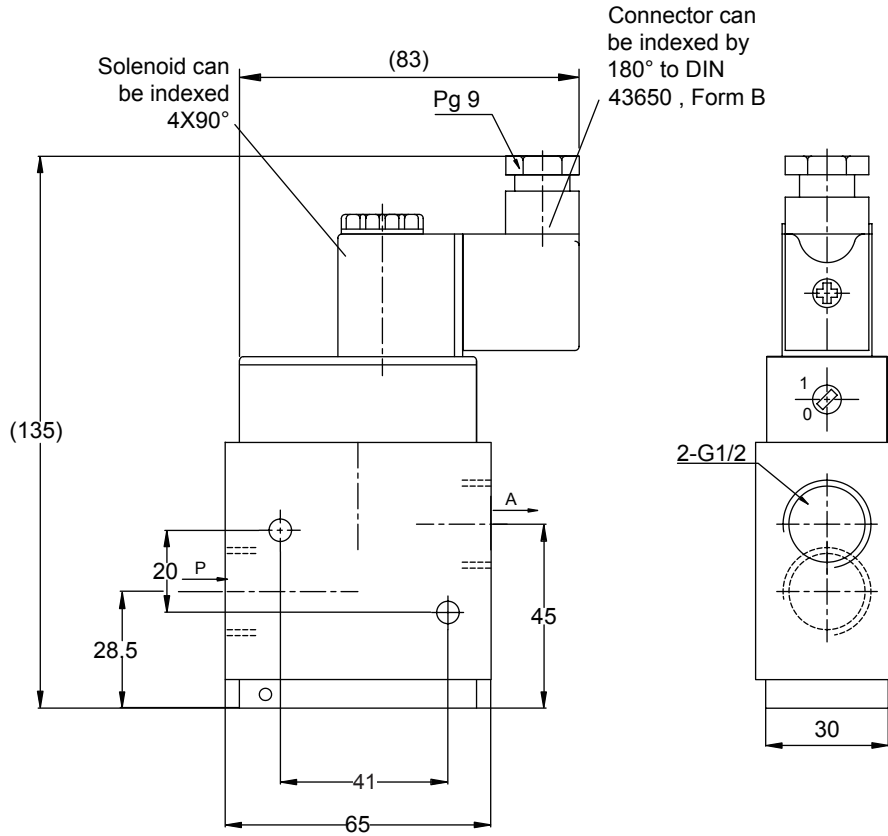


Cat. No. : 9032960



**Dimensional drawings**

Cat. No. : 9032060



**Quietaire silencer**

Model : MG15 / MG20 / MG25 / MG40 / MG50

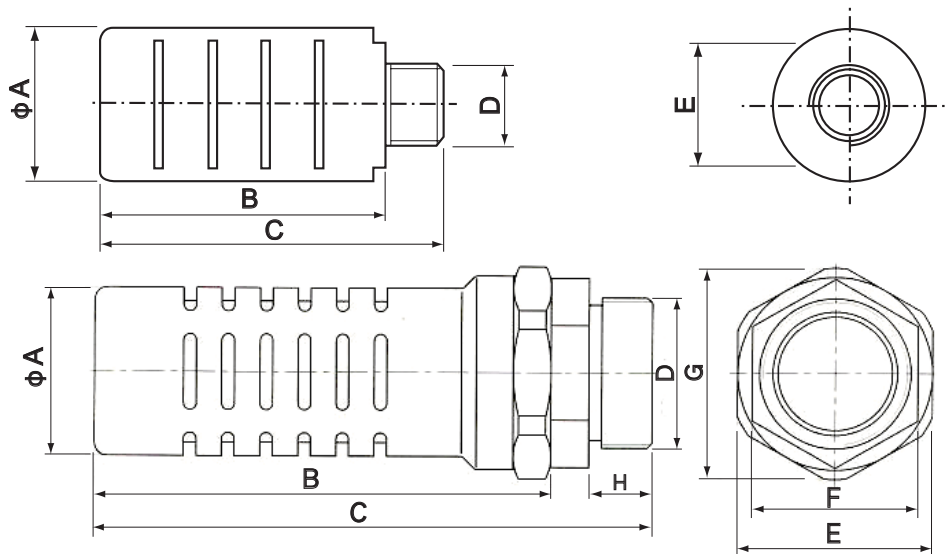
Male thread size : G1/2 , G3/4 , G1 , G1 1/2 , G2

Max. operating pressure : 10 bar

**Features**

- ★ Material : Aluminum
- ★ Reduce the noise levels of pneumatic equipment
- ★ Prevent open line exhaust danger
- ★ High flow capacity with low back pressure
- ★ Prevent metal chips, adrasive grits, dust and other contaminants from entering open exhaust ports.
- ★ Plastic screen and aluminium construction provide improved folw, and changable element.

**Dimensional Drawing**



MODEL	A	B	C	D	E	F	G	H
MG15	φ 32	70.2	83.5	G1/2"	25.2	—	—	—
MG20	φ 51.2	96.8	116	G3/4"	41	—	—	—
MG25	φ 50.8	96.8	116	G1"	41	—	—	—
MG40	φ 67.2	180	220	G1 1/2"	76.7	65	φ 84	25
MG50	φ 67.2	180	220	G2"	76.7	65	φ 84	25

**Quietaire silencer**

Model : SM10 / SM15 / SM20 / SM25 / SM32 / SM40 / SM50

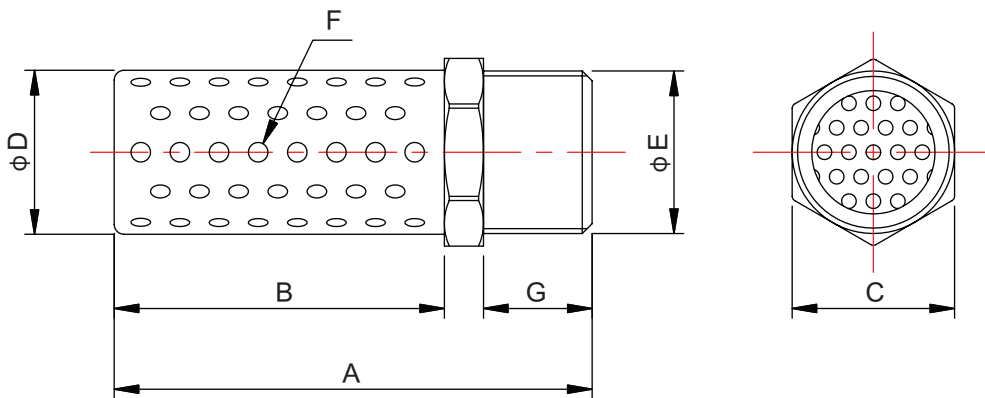
Male thread size : G3/8 , G1/2 , G3/4 , G1 , G1 1/4 , G1 1/2 , G2

Max. operating pressure : 10 bar

**Features**

- ★ Material : Iron
- ★ Reduce the noise levels of pneumatic equipment
- ★ Prevent open line exhaust danger
- ★ High flow capacity with low back pressure
- ★ Prevent metal chips, adrasive grits, dust and other contaminants from entering open exhaust ports.
- ★ Plastic screen and aluminium construction provide improved folw, and changable element.

**Dimensional Drawing**



MODEL	A	B	C	D	E	F	G
SM10	56.5	37.5	17.5	17.5	G3/8"	φ 3.0-28	13
SM15	69.0	45.5	22.2	22.0	G1/2"	φ 3.0-36	17
SM20	82.0	58.0	27.0	26.7	G3/4"	φ 3.0-66	17
SM25	98.5	66.0	33.3	33.3	G1"	φ 3.0-78	22
SM32	114.5	81.0	46.0	42.5	G1 1/4"	φ 4.0-90	23
SM40	124.7	89.3	50.0	50.0	G1 1/2"	φ 4.0-102	23.5
SM50	141.0	102.5	65.0	59.8	G2"	φ 4.0-152	26.3

**Exhaust Cleaner**

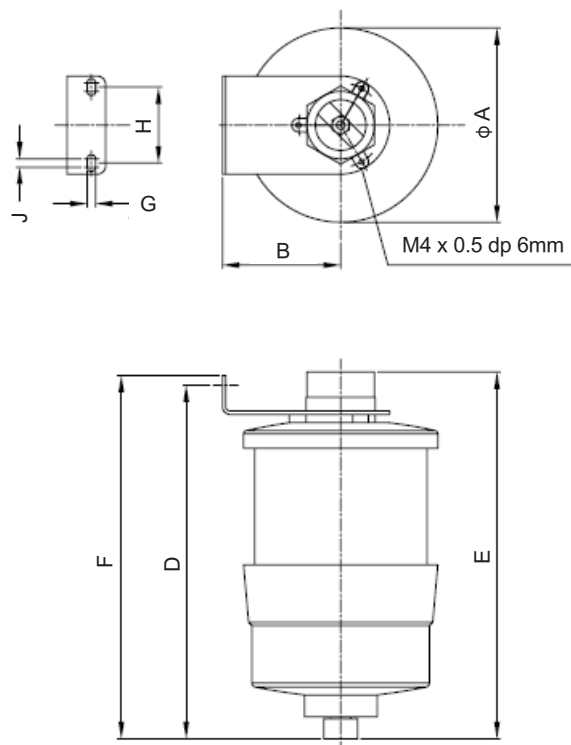
- ★ Ensures clean plant air and reduce noise pollution.
- ★ Noise reduction : over 35 decibel.
- ★ Oil mist removal : over 99.9%.
- ★ Oil release : thread.

**Parameters**

Type	Size	Max flow rate [ l/min ]	Weight [ kg ]	Mounting
MFC-15-100	G1/2"	1000	0.65	S0106
MFC-20-100	G3/4"	1100	0.65	S0106
MFC-25-100	G1"	3050	0.75	S0107

\* Ambient and fluid temperature : -10 ~ +60°C , if there is no risk of freezing the moisture in the air.

**Dimensional Drawing**








TYPE	A	B	D	E	F	G	H	J
MFC-15-100	100	69	195	206	205	6.5	38.5	3.5
MFC-20-100	100	69	195	206	205	6.5	38.5	3.5
MFC-25-100	115	70	250	213	260	5	45	5



**Standard connector**

Voltages : 12 VDC and 230 VAC. Further voltages on request  
Design acc. to VDC Specification 0580 100% Duty cycle

**Parameters**

Picture	Cat. No.	Connector interface	Degree of Protection	Power consumption		Temperatures [°C ]		Standard voltage
				DC [W]	AC [VA]	Fluid max.	Ambience	
	3052	Industrial Form	IP 65	3	5	50	-20 ~ 50	DC 24V AC 110V AC 220V
	3030		IP 65	2	5	50	-20 ~ 50	DC 24V AC 110V AC 220V
	0543	Industrial Form	IP 65	15	21.7	50	-20 ~ 50	DC 24V AC 110V AC 220V
	0558		IP 65	6.7	7.6	50	-20 ~ 50	DC 24V AC 110V AC 220V
	0562		IP 65	6.1	11.1	50	-20 ~ 50	DC 24V AC 110V AC 220V

**Connector (Option)**

01	LED	02	Varistor	03	LED + Varistor
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**Protection classes EEx m**

Voltages : 24VDC and 230VAC. Further voltages available on request  
Design acc. to VDC 0580 or VDE 0170. 100% Duty cycle

**How to order**

Example : 0543 · AC 220V X 5

Cat. No.	Voltage	Quantity
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