Parker Pneumatic

ADEX

Directional Control Valves
M3 - M5 - G1/8

Catalogue PD0C00005GB01-ev

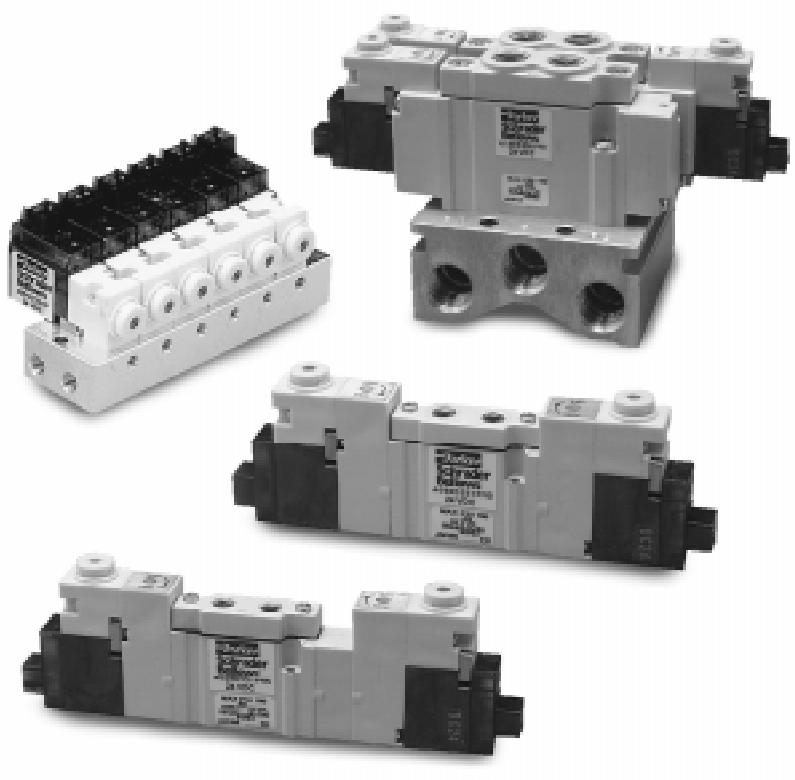
Summary

Page

ADEX

Valves

A00*Series*
A05*Series*
A12*Series*



Compact body with large flow

It allows flexibility on your applications saving space and reducing costs.
These series is most suitable for driving cylinders of Ø10 to Ø100 in diameter.

A00 — **3/2 NO and 3/2 NC versions**

Body width
10 mm

A05 — **5/2 and 5/3 versions**

Body width
10 mm

A12 — **5/2 and 5/3 versions**

Body width
15 mm

Quick response time, faster than 10ms

(A05 series, Single solenoid)
Uniquely designed pilot valve with fast response time and low power consumption.

Tested life time more than 50,000,000 times

(Based on Parker laboratory test conditions)
ADEX valves feature the well-reputed WCS (Wear Compensation System) in the main spool, resulting in low sliding friction and long service life.

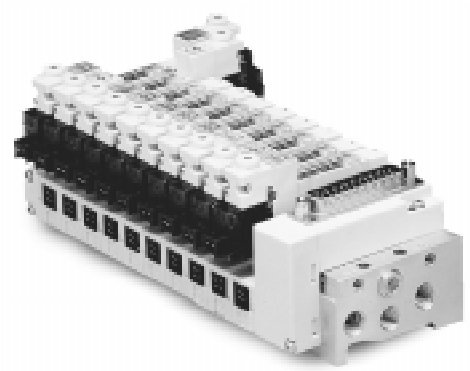
Low power consumption only 0,6W

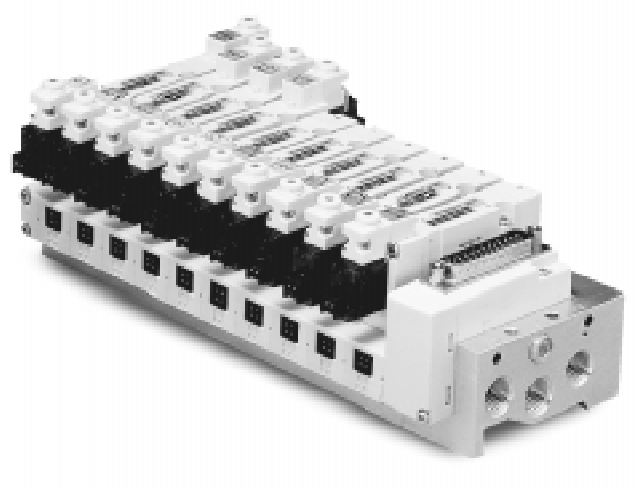
(With indicator light and surge suppressor)
Direct drive from PLC is possible, contributing to cost reduction as well as down sizing of the DC power supply.

Multipin connector version

Connection by sub-D 25 on subbase.

Inline or subbases monted (side ported) versions





Captured exhaust from main valve and pilot valve

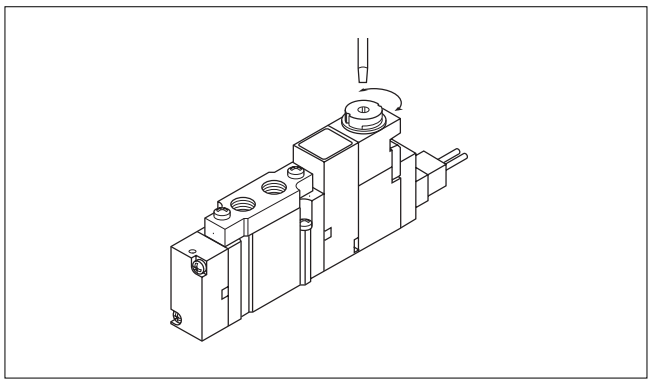
(Subbase mounting type)
Exhaust air from pilot valve is captured together with exhaust air from main valve.
Unlike conventional exhaust systems, exhaust air from pilot valve is not directly discharged to outside.
This takes to prevent air contamination in the atmosphere.

Outputs ports selectable

Series	Standard
	Tapped hole
A00	M3 - M5
A05	M5
A12	G1/8

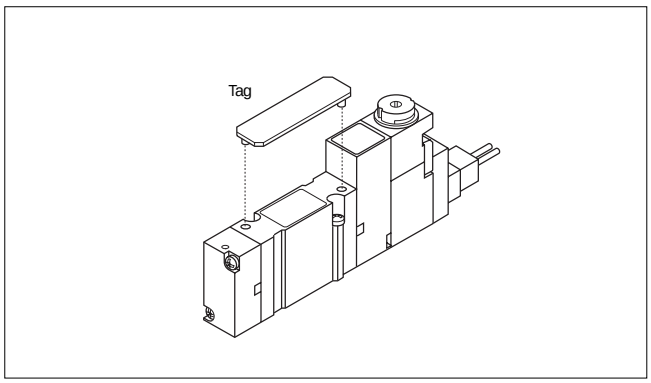
Manual override

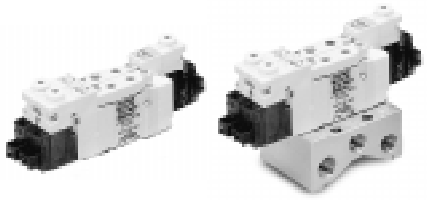
Screwdriver-operated manual override is standard.



Multipurpose tag available

For the convenience of installation, testing, maintenance tag can be mounted on the upside of solenoid valve body.



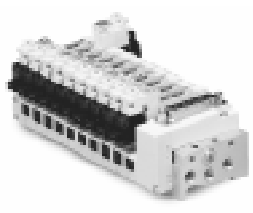
	Direct Operated Solenoid	Inline IEM Valves
		
Series	A00	A05R
Internal Pilot Supply		●
Single Solenoid 3/2	●	
Single Solenoid 5/2		●
Double Solenoid 5/2		●
Closed Center 5/3		●
Vented Center 5/3		●
Pressurised Center 5/3		●
Indicator LED & Surge Suppressor	●	●
Manual Override	●	●
Inline Mounting		●
IEM Manifold Mounting		●
Subbase Mounting	●	
Electrical Collective Wiring		●
Port Sizes	M3 - M5	M5

Diameter of controlled cylinder
Pressure : 5 bar
Load factor : 0.5
Cylinder speed m/s
Tube lenght : 1m
Tube diameter : A05 : 6 x 4 mm
A12 : 8 x 6 mm

	0,15	0,30	0,45	0,60	0,75
Ø6					
Ø10					
Ø16					
Ø20					
Ø25					
Ø32					
Ø40					
Ø50					
Ø63					
Ø80					
Ø100					

Subbase Mounted Valves





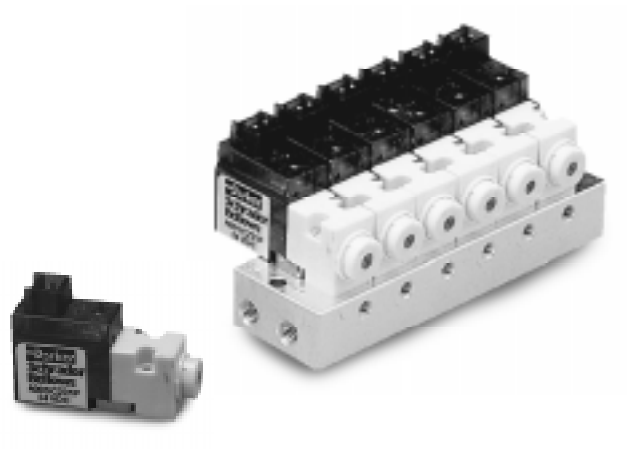

A12R	A05P	A12P
●	●	●
●	●	●
●	●	●
●	●	●
●	●	●
●	●	●
●	●	●
●	●	●
●		
●		
	●	●
●	●	●
G1/8	M5	G1/8

0,15 0,30 0,45 0,60 0,75

0,15 0,30 0,45 0,60 0,75

0,15 0,30 0,45 0,60 0,75

- 0,6W low power solenoid
- NO or NC versions
- Ultra fast response time
- Suitable for vacuum operation
- Impulse or turn to lock manual override



Operating information

Working pressure	:	NC : 0 to 7,1 bar or vacuum to 6,1 bar*
	:	NO : 0 to 5,1 bar or vacuum to 4,2 bar*
Working temperature	:	-5°C to 50°C
Storage temperature	:	-40°C + 70°C
Fluid	:	air or gas 50µm filtered lubricated or not
Response time	:	DC on 5ms off 5ms

Expected mechanical life
with dry air at 6 bar 20°C 1 Hz: 50 million cycles

NOTE : Above mentionned datas apply for intermittent duty, for continuous duty : please consult us.

Orientation	:	any plane
Maximum operating frequency	:	cycles/min: 600 (10Hz)
Degree of protection	:	IP40
Operating voltage	:	12 and 24 V DC -10% to +10% intermittent duty and -10% to 0% continuous duty
Surge suppression	:	Diode for DC version
Consumption	:	0,55 W (without LED) 0,6W (with LED indicator light)
Wiring	:	Connector 2,54mm pin spacing
Cv	:	0,01

Additional information

* For vacuum operation: with normally open version; air supply is inverted i.e.
P - Vacuum, R - Pressured air
with normally closed version P - Pressured air, R - Vacuum

Normally closed valves (A005C23•P) cannot be mounted together with normally open valves (A005 23•P) on the same manifold

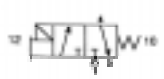
References

Solenoid	Function	Voltage	Connector
A00S	C23	1	P
	C23 : NC O23 : NO	1 : DC 24V 2 : DC 12V	P - Orientation top with LED and suppressor

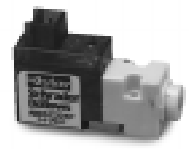
Manifold type	No. of stations	Type of solenoid	Output port A, size
MMFS	8	A00	M3
	from 2 up to 16 (20 on request)	A00 series	M3 or M5 ports

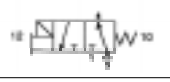
* P common pressure
R common exhaust

10mm Solenoid 3/2 N/C with mounting screws and base gasket

Symbol	Voltage	Weight (kg)	Order code
	24V DC	0,013	**A00SC231P**
	12V DC	0,013	**A00SC232P**

10mm Solenoid 3/2 N/O with mounting screws and base gasket



Symbol	Voltage	Weight (kg)	Order code
	24V DC	0,013	**A00S0231P**
	12V DC	0,013	**A00S0232P**

Stand alone subbase M3 (mounting screws and gasket included with valves)

	Description	Weight (kg)	Order code
	Stand alone subbase	0,008	**A00SBM3**

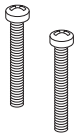
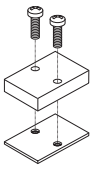
Manifold M3 for 10mm Solenoid 3/2

	Number of stations	Order code
	2	**MMFS2 A00 M3**
	4	**MMFS4 A00 M3**
	6	**MMFS6 A00 M3**
	8	**MMFS8 A00 M3**
	10	**MMFS10 A00 M3**
	12	**MMFS12 A00 M3**
	16	**MMFS16 A00 M3**

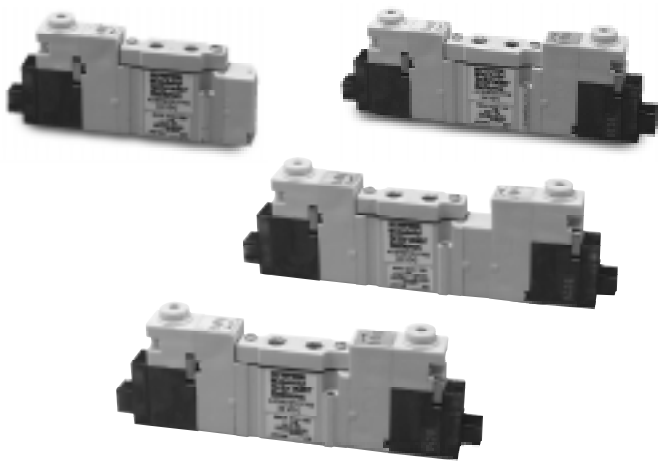
Manifold M5 for 10mm Solenoid 3/2

	Number of stations	Order code
	2	**MMFS2 A00 M5**
	4	**MMFS4 A00 M5**
	6	**MMFS6 A00 M5**
	8	**MMFS8 A00 M5**
	10	**MMFS10 A00 M5**
	12	**MMFS12 A00 M5**
	16	**MMFS16 A00 M5**

For dimensions see page 17

	Description	Order code
	Connector with lead wire black (-), red (+), length 500mm	**A05PDCCL5**
	Connector with lead wire black (-), red (+), length 1000mm	**A05PDCCL10**
	Base gasket (pack of 10)	**A00SG**
	Pack of screws (pack of 20)	**A00SS**
	Blanking plate kit	**A00SBP**

- 0,6W low power solenoid
- Fast response time
- Vacuum version available on request
- Impulse and turn to lock manual override



Operating information

Working pressure : 5/2 monos. 1,5 to 7,1 bar
5/2 bistable 1 to 7,1 bar
5/3 CC, CV, CP 2 to 7,1 bar
Working temperature : -5°C to +50°C
Storage temperature : -40°C to +70°C
Fluid : air or gaz 50µm filtered lubricated or not
Response time :

(V DC)		Response time : ms		
		5/2 monos.	5/2 bi.	5/3
A05R	On	10	10	10
	Off	10	-	15
A12R	On	15	10	12
	Off	18	-	36
A05P	On	10	10	10
	Off	10	-	15
A12P	On	15	10	12
	Off	18	-	36

*Cv measurement : there are several ways to determine Cv valves, resulting in some Cv been overstated by 20 to 40%. This can adversely affect the user's application because the valve flows less than the quoted Cv.
Parker's Cv valve is calculated using the ANSI (NFPA) T3-21-3-1990 standard. The ANSI (NFPA) method is a structured test using very specific tube sizes and lenght, inlet pressures, pressures drop and volume chambers.

Expected mechanical life with dry air at 6 bar20°C 1 Hz: 50 million cycles
Orientation : any plane
Maximum operating frequency : cycles/min. : : 5/2; 600 (10Hz) - 5/3; 500
Degree of protection : IP 40

NOTE : Above mentionned datas apply for intermittent duty, for continuous duty : please consult us.

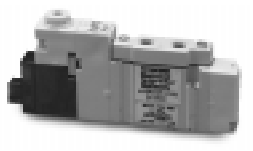
Operating voltage : 12 and 24 V DC
-10% to +10% intermittent duty
and -10% to 0% continuous duty
Surge suppression : Diode for DC version
Consumption : 0,55 W (without LED)
0,6W (with LED indicator light)
Wiring : Connector 2,54mm pin spacing

Flow characteristics

		5/2 monostable	5/2 bistable	5/3 close center
Inline IEM		**A05RS25**	**A05RD25**	**A05RD35**
A05	Cv*	0,17	0,17	0,16
Inline IEM		**A12RS25**	**A12RD25**	**A12RD35**
A12	Cv*	0,47	0,47	0,43
Subbase		**A05PS25**	**A05PD25**	**A05PD35**
A05	Cv*	0,18	0,18	0,16
Subbase		**A12PS25**	**A12PD25**	**A12PD35**
A12	Cv*	0,44	0,44	0,40

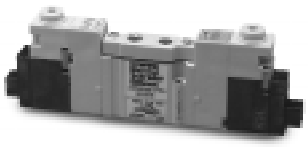
Main data for directional control valves A05R and A12R series

Electrically actuated 5/2 single solenoid



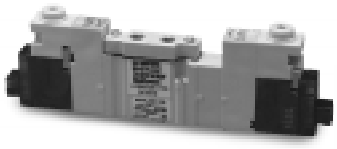
Symbol	Threaded connection	Voltage	Order code
	M5	24V DC	**A05RS251PM5MF**
	G1/8	24V DC	**A12RS251PG1MF**

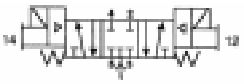
Electrically actuated 5/2 double solenoid



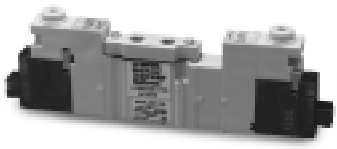
Symbol	Threaded connection	Voltage	Order code
	M5	24V DC	**A05RD251PM5MF**
	G1/8	24V DC	**A12RD251PG1MF**

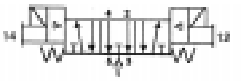
Electrically actuated 5/3 closed center



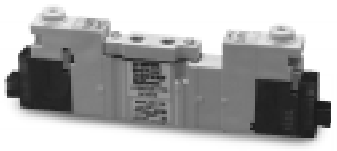
Symbol	Threaded connection	Voltage	Order code
	M5	24V DC	**A05RD351PM5MF**
	G1/8	24V DC	**A12RD351PG1MF**

Electrically actuated 5/3 vented center

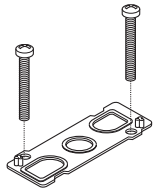


Symbol	Threaded connection	Voltage	Order code
	M5	24V DC	**A05RE351PM5MF**
	G1/8	24V DC	**A12RE351PG1MF**

Electrically actuated 5/3 pressurised center



Symbol	Threaded connection	Voltage	Order code
	M5	24V DC	**A05R0351PM5MF**
	G1/8	24V DC	**A12R0351PG1MF**



Gasket and screws for IEM mounting supplied with each valve

For dimensions see page 18

Main data for manifolds for directional control valves A05R/A12R series

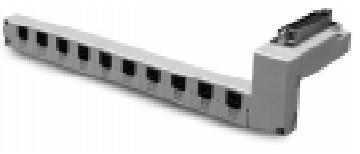
Manifold for in line valve with individual electric connector

No. of stations	Port size	Size	Order Code
4	M5	A05	**MMFU4A05G**
	G1/8	A12	**MMFU4A12G**
6	M5	A05	**MMFU6A05G**
	G1/8	A12	**MMFU6A12G**
8	M5	A05	**MMFU8A05G**
	G1/8	A12	**MMFU8A12G**
10	M5	A05	**MMFU10A05G**
	G1/8	A12	**MMFU10A12G**
12	M5	A05	**MMFU12A05G**
	G1/8	A12	**MMFU12A12G**

Manifold for in line valve with sub D collective wiring module

No. of stations	Port size	Size	Order Code
4	M5	A05	**MMCU4A05G**
	G1/8	A12	**MMCU4A12G**
6	M5	A05	**MMCU6A05G**
	G1/8	A12	**MMCU6A12G**
8	M5	A05	**MMCU8A05G**
	G1/8	A12	**MMCU8A12G**
10	M5	A05	**MMCU10A05G**
	G1/8	A12	**MMCU10A12G**
12	M5	A05	**MMCU12A05G**
	G1/8	A12	**MMCU12A12G**

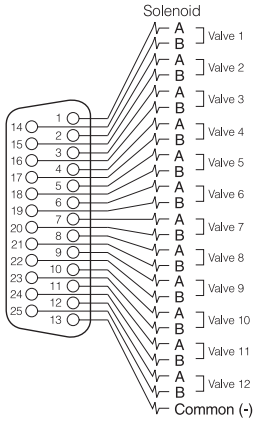
Collective wiring add-on module



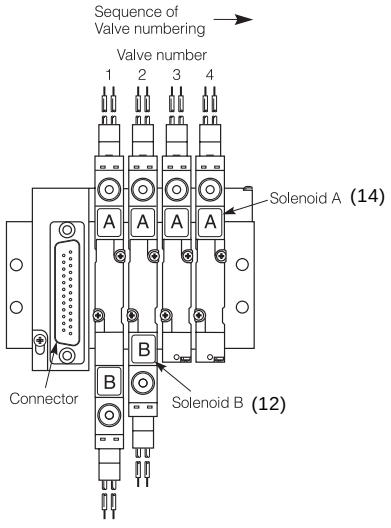
No. of stations		Size	Order Code
4		A05	**MCS4A05PDL**
		A12	**MCS4A12PDL**
6		A05	**MCS6A05PDL**
		A12	**MCS6A12PDL**
8		A05	**MCS8A05PDL**
		A12	**MCS8A12PDL**
10		A05	**MCS10A05PDL**
		A12	**MCS10A12PDL**
12		A05	**MCS12A05PDL**
		A12	**MCS12A12PDL**

For dimensions see page 19

Collective wiring pin mapping



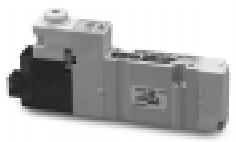
Pin map for Sub-D 25 connector



Valve and solenoid addresses

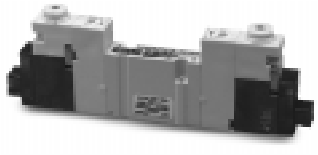
Main data for directional control valves A05P/A12P series

Electrically actuated 5/2 single solenoid



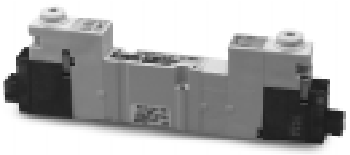
Symbol	Voltage	Size	Order code
	24V DC	A05	**A05PS251P**
	24V DC	A12	**A12PS251P**

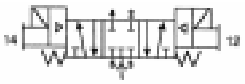
Electrically actuated 5/2 double solenoid



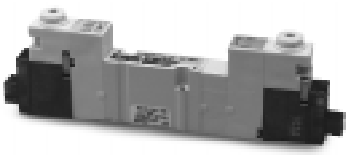
Symbol	Voltage	Size	Order code
	24V DC	A05	**A05PD251P**
	24V DC	A12	**A12PD251P**

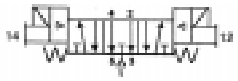
Electrically actuated 5/3 closed center



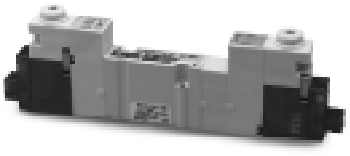
Symbol	Voltage	Size	Order code
	24V DC	A05	**A05PD351P**
	24V DC	A12	**A12PD351P**

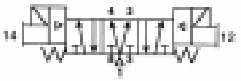
Electrically actuated 5/3 vented center

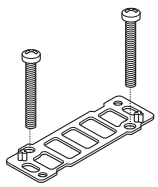


Symbol	Voltage	Size	Order code
	24V DC	A05	**A05PE351P**
	24V DC	A12	**A12PE351P**

Electrically actuated 5/3 pressurised center



Symbol	Voltage	Size	Order code
	24V DC	A05	**A05P0351P**
	24V DC	A12	**A12P0351P**



Gasket and screws supplied with each valve.

For dimensions see page 20

Main data for manifolds for directional control valves A05P/A12P series

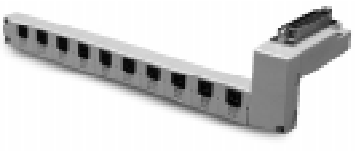
Manifold side ported BSPP thread, for valves with individual electrical wiring

No. of stations	Port size	Size	Order Code
4	M5	A05	**MMFS4A05GM5**
	G1/8	A12	**MMFS4A12GG1**
6	M5	A05	**MMFS6A05GM5**
	G1/8	A12	**MMFS6A12GG1**
8	M5	A05	**MMFS8A05GM5**
	G1/8	A12	**MMFS8A12GG1**
10	M5	A05	**MMFS10A05GM5**
	G1/8	A12	**MMFS10A12GG1**
12	M5	A05	**MMFS12A05GM5**
	G1/8	A12	**MMFS12A12GG1**

Manifold side ported BSPP thread, for Sub D collective wiring module

No. of stations	Port size	Size	Order Code
4	M5	A05	**MMCS4A05GM5**
	G1/8	A12	**MMCS4A12GG1**
6	M5	A05	**MMCS6A05GM5**
	G1/8	A12	**MMCS6A12GG1**
8	M5	A05	**MMCS8A05GM5**
	G1/8	A12	**MMCS8A12GG1**
10	M5	A05	**MMCS10A05GM5**
	G1/8	A12	**MMCS10A12GG1**
12	M5	A05	**MMCS12A05GM5**
	G1/8	A12	**MMCS12A12GG1**

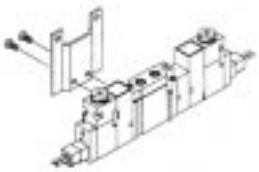
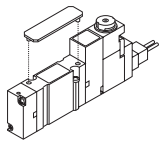
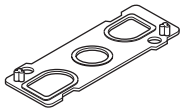
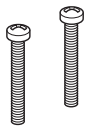
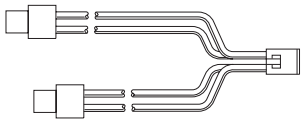
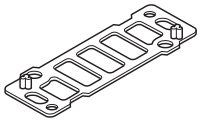
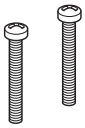
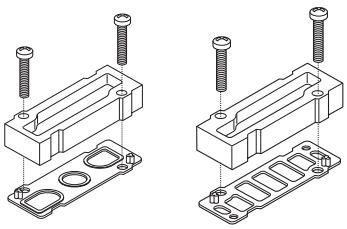
Collective wiring add-on module (supplied with monting screws) for MMCS... manifolds



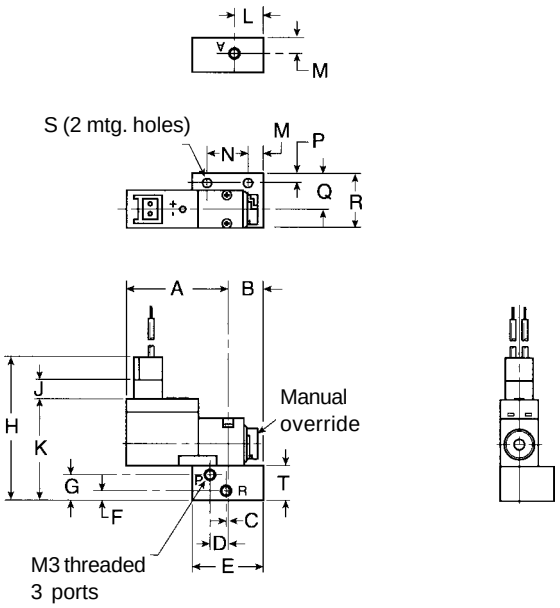
No. of stations		Size	Order Code
4		A05	**MCS4A05PDL**
		A12	**MCS4A12PDL**
6		A05	**MCS6A05PDL**
		A12	**MCS6A12PDL**
8		A05	**MCS8A05PDL**
		A12	**MCS8A12PDL**
10		A05	**MCS10A05PDL**
		A12	**MCS10A12PDL**
12		A05	**MCS12A05PDL**
		A12	**MCS12A12PDL**

For wiring pin mapping see page 13

For dimensions see page 21

	Description	Order code
	Connector with lead wire black (-), red (+), length 500mm	**A05PDCCL5**
	Connector with lead wire black (-), red (+), length 1000mm	**A05PDCCL10**
	Mounting bracket A05R (1 bracket with 2 screws)	**A05RBS**
	Mounting bracket A12R (1 bracket with 2 screws)	**A12RBS**
	Identification tag for subbase valves (pack of 10)	**A05PN**
	IEM gasket (pack of 10) for A05R/A12R	**A05RG** **A12RG**
	IEM mounting screws (pack of 20) for A05R/A12R	**A05RS** **A12RS**
	Collective wiring connector Single solenoid PNP	**A05PSCCM** **A12PSCCM**
	Collective wiring connector Double solenoid PNP	**A05PDCCM** **A12PDCCM**
	Subbase gasket (pack of 10) for A05P/A12P	**A05PG** **A12PG**
	Subbase mounting screws (pack of 20) for A05P/A12P	**A05PS** **A12PS**
	IEM blanking plate kit (pack of 5)	**A05RGBP** **A12RGBP**
	Subbase blanking plate kit (pack of 5)	**A05PGBP** **A12PGBP**

A00 - Subbase

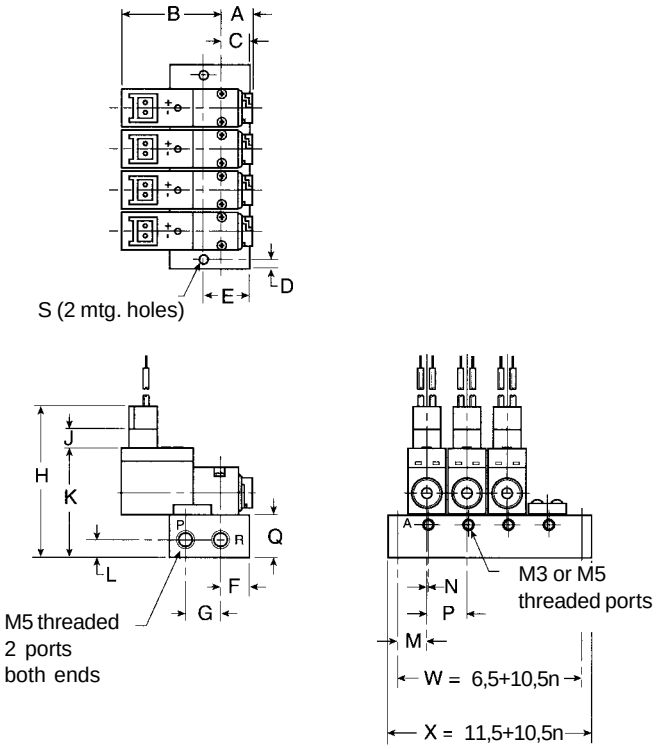


A00 - Subbase

A 25,4	**B** 10,5	**C** 0,4	**D** 4,4	**E** 20
F 3	**G** 7	**H** 39,2	**J** 5	**K** 28,2
L 8,2	**M** 4,5	**N** 12	**P** 2,5	**Q** 10
R 15	**S** 2,7	**T** 9,7		

Dimensions in mm

A00 - Manifold



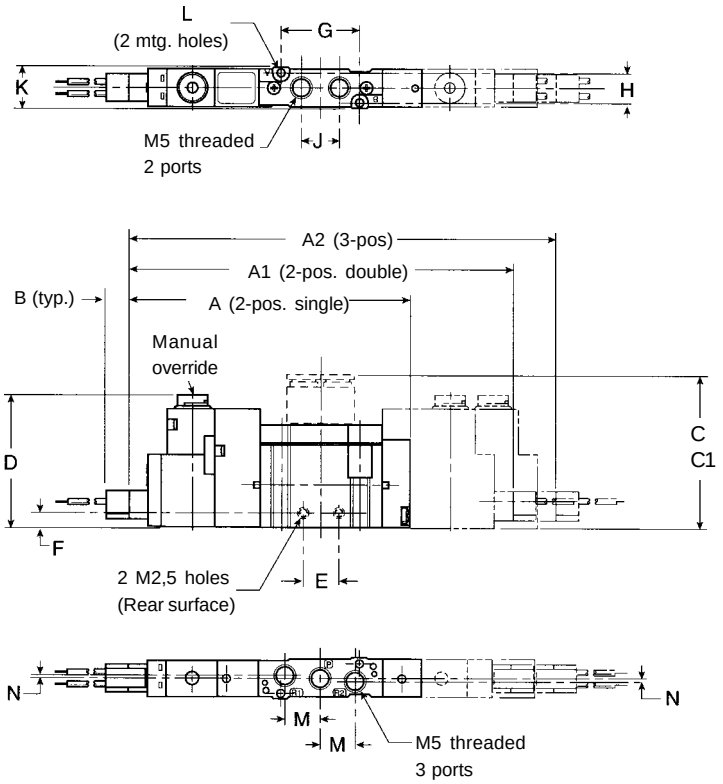
A00 - Manifold

A 9,2	**B** 25,4	**C** 8	**D** 2,5	**E** 13
F 8	**G** 10	**H** 41,5	**J** 5	**K** 30,5
L 5	**M** 8,5	**N** 0,6	**P** 10,5	**Q** 12

Dimensions in mm

n = number of stations

A05R - Single and double operators - Body ported

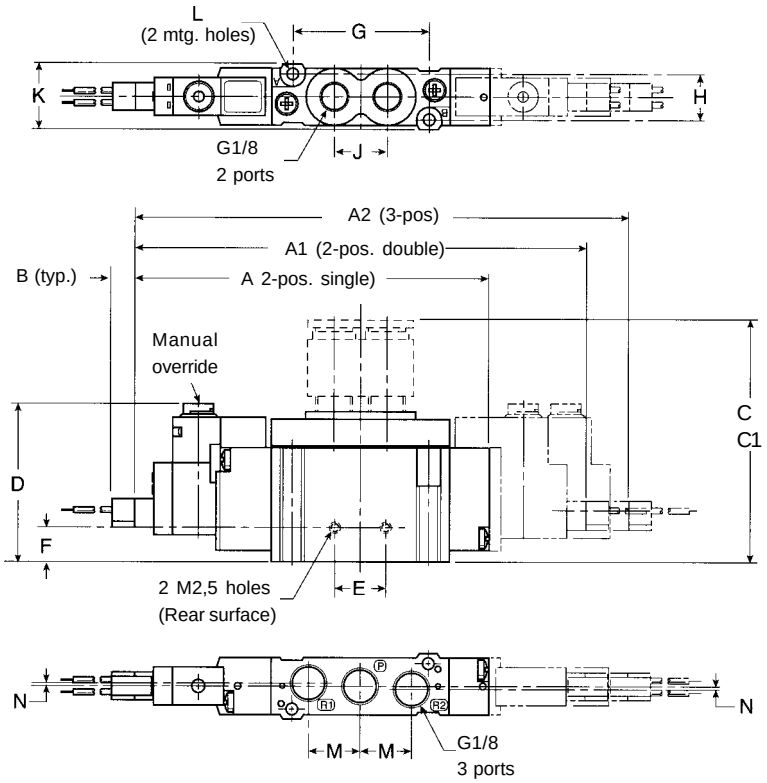


A05R - Body ported

A 74	**A1** 100	**A2** 108	**B** 6	**C** -
C1 -	**D** 34,6	**E** 9,6	**F** 4	**G** 21
H 8,5	**J** 10,2	**K** 11,4	**L** Ø2,1	**M** 9,5
N 1				

Dimensions in mm

A12R - Single and double operators - Body ported

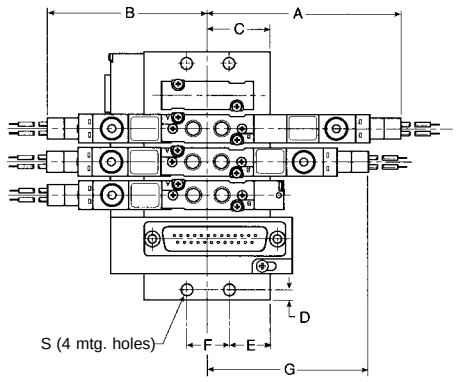


A12R - Body ported

A 93,5	**A1** 119	**A2** 130	**B** 6	**C** -
C1 -	**D** 41,6	**E** 13,4	**F** 9	**G** 36
H 12	**J** 14	**K** 17,2	**L** Ø3,1	**M** 13,6
N 0,8				

Dimensions in mm

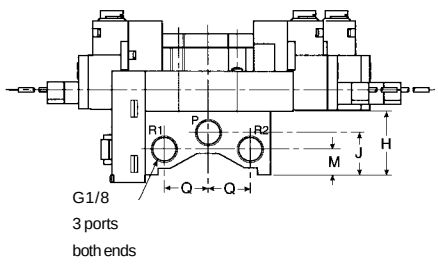
A05R - Manifold - Valve body ports

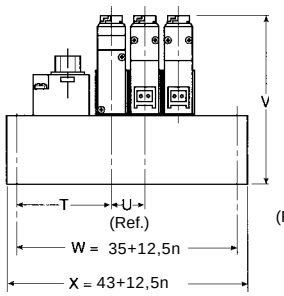


A05R - Manifold - valve body port

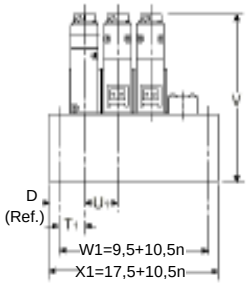
A 64	**B** 56	**C** 23,5	**D** 4	**E** 15,5
F 16	**G** 56	**H** 24	**J** 15,5	**M** 9,5
Q 16	**S** Ø4,5	**T** 34	**T1** 10	**U** 12,5
U1 10,5	**V** 63			

Dimensions in mm





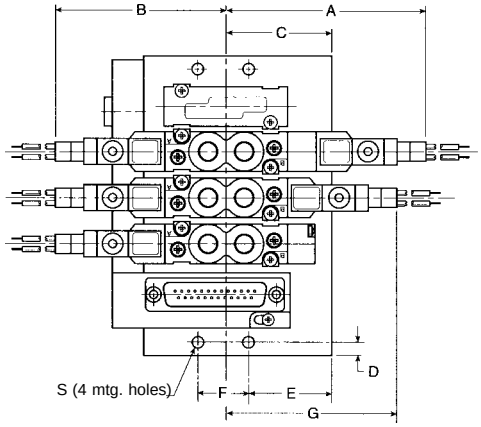
MMCU...



MMFU...

n = number of stations

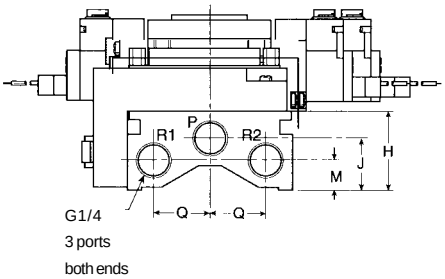
A12R - Manifold - Valve body ports

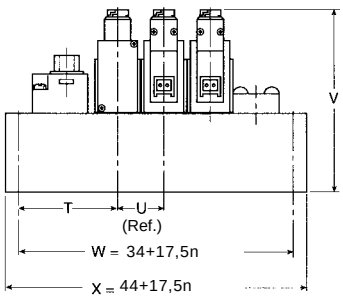


A12R - Manifold - Valve body port

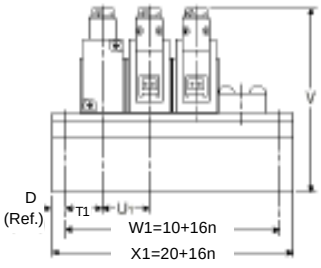
A 77	**B** 66	**C** 29	**D** 5	**E** 19,2
F 19,6	**G** 66	**H** 27,5	**J** 18	**M** 10,5
Q 19,5	**S** Ø4,5	**T** 37,5	**T1** 12,2	**U** 17,5
U1 16	**V** 70			

Dimensions in mm





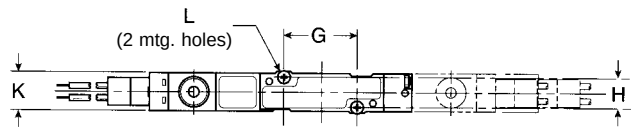
MMCU...

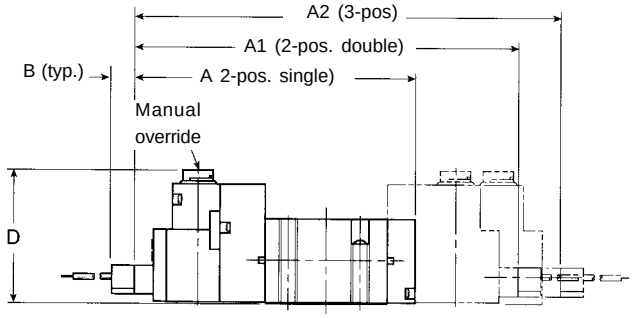


MMFU...

n = number of stations

A05P - Single and double operators - Subbase



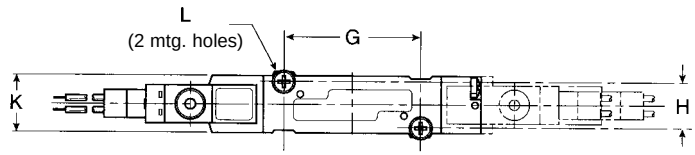


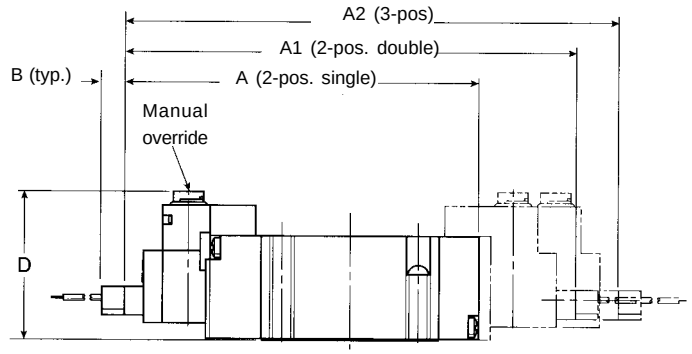
A05P - Subbase

A	A1	A2	B	D
74	100	108	6	35,1
G	**H**	**K**	**L**	
19	8,5	10	Ø2,1	

Dimensions in mm

A12P - Single and double operators - Subbase



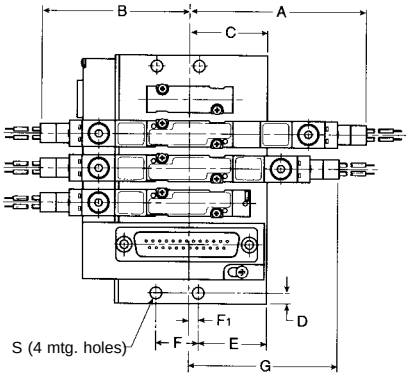


A12P - Subbase

A	A1	A2	B	D
93,5	119	130	6	39,1
G	**H**	**K**	**L**	
34	12	15	Ø3,1	

Dimensions in mm

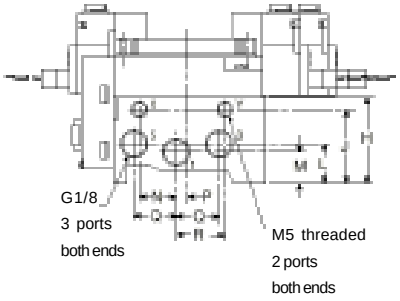
A05P - Manifold - Side ports

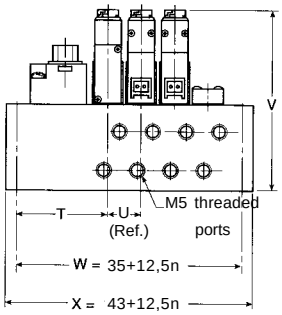


A05P - Manifold - Side ports

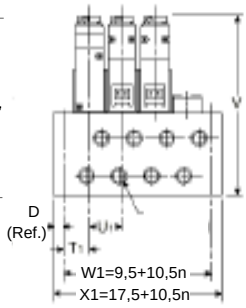
A 64	**B** 56	**C** 30,2	**D** 4	**E** 25,5
F 16	**F1** 4,7	**G** 56	**H** 32	**J** 28
L 14,5	**M** 11,5	**N** 14	**P** 3	**Q** 16
R 18	**S** Ø4,5	**T** 33,8	**T1** 10	**U** 12,5
U1 10,5	**V** 67			

Dimensions in mm





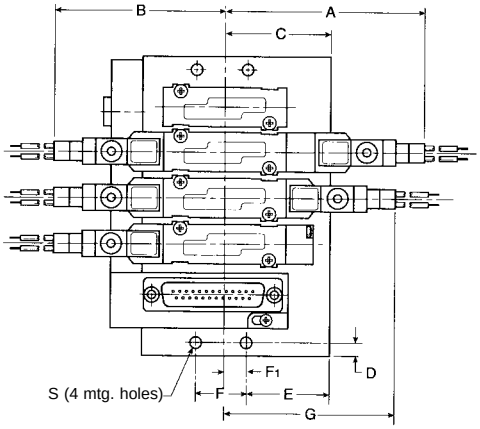
MMCS...



MMFS...

n = number of stations

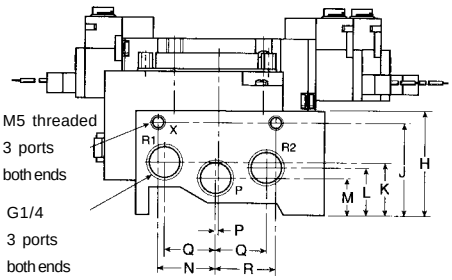
A12P - Manifolds - Side ports

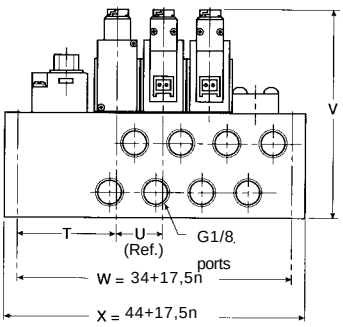


A12P - Manifold - Side ports

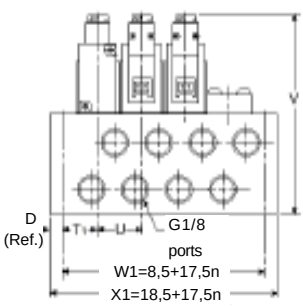
A 77	**B** 66	**C** 40,4	**D** 5	**E** 31,7
F 19,6	**F1** 11	**G** 66	**H** 39,5	**J** 35
K 20,5	**L** 18	**M** 14	**N** 22	**P** 1
Q 19,5	**R** 23	**S** Ø4,5	**T** 37,2	**T1** 12,7
U 17,5	**V** 79			

Dimensions in mm





MMCS...



MMFS...

n = number of stations

Notes