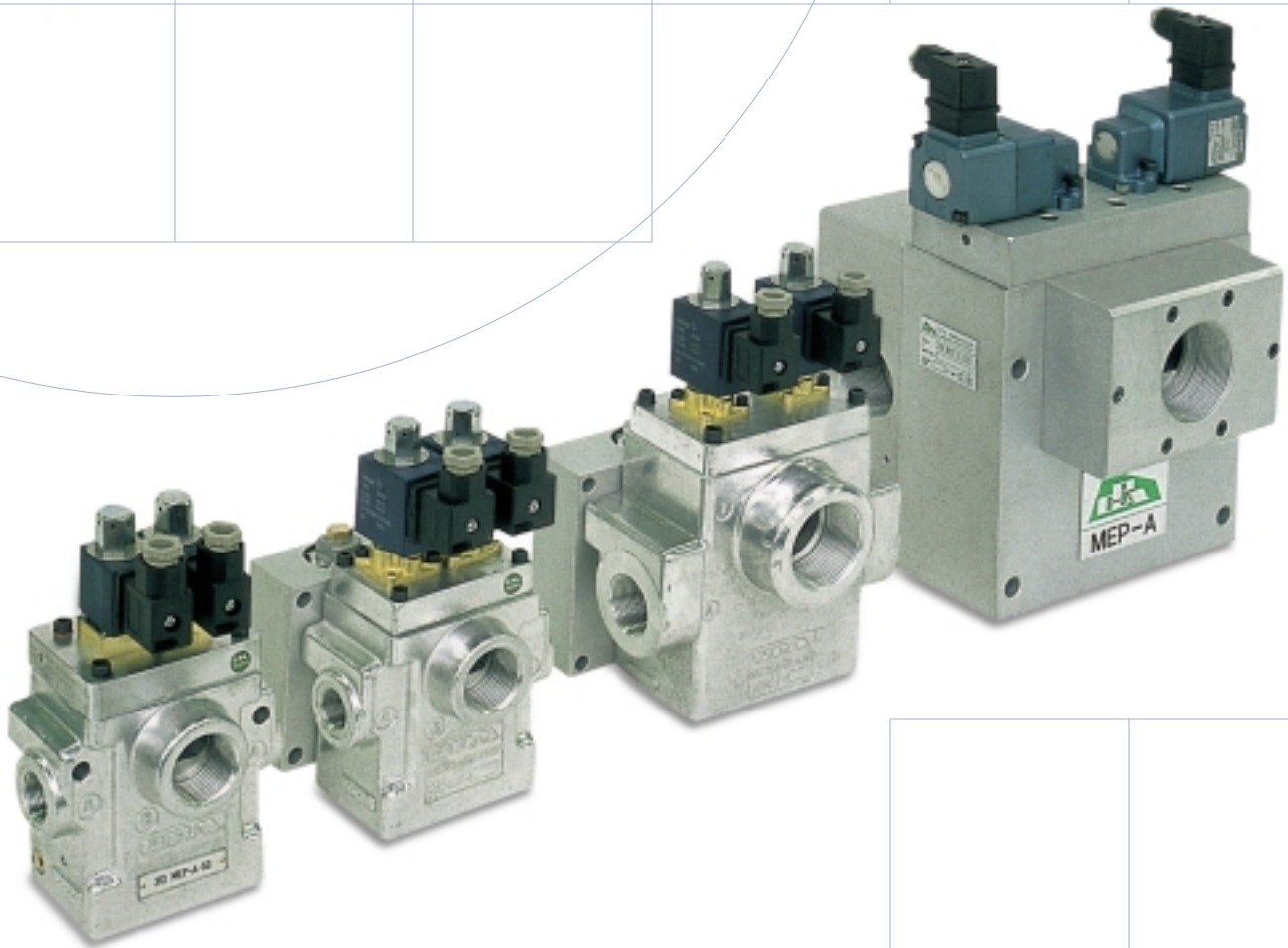


The **GPA** Dual Safety Valves from *ISB*



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ISB™



DEFINITION

MEP-A is a series of safety valves designed with an intrinsically dynamic safety control system. These are 3 way/2 pos. NC active components for compressed

air powered single acting actuated control.

To achieve their safety duties according to effective standards, such as EN 692 for CEE countries, these valves must be redundant (double-body) and

equipped with a dynamic failure monitoring device.

They now spread in four models from nominal size 10 to 40, all with BG approval.

ACCOMPLISHMENT

MEP-A are redundant (double-body), parallel flow pneumatically actuated valves, rated to limit in case of malfunction, the residual pressure to values under 3% of the inlet pressure.

Their inherent dynamic monitoring system blocks valve operation safety in case an inner leakage occurs, also if very low and not detectable by usual position sensors.

A phase difference between the two bodies of a few tenth of a second causes the self-locking of the valve, which cannot be inserted back until the safe running in the rest position will be restored (delivery sealed and parallel exhaust of both bodies).

Reset is automatic when the normal function is restored in the stand by position. An auxiliary monitoring system with manual reset can be actuated by two pressure switches, delivered as an option, mounted on the relevant connections.

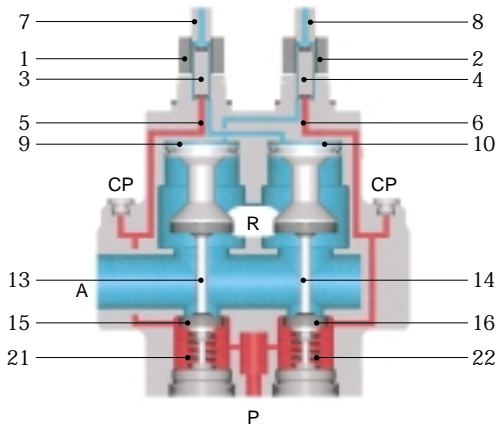
CONSTRUCTION

Function	3/2 NC
Construction type	poppet
Pilot system	electropneumatic inter
Fluid	filtered and lubricated air
Materials	body aluminium gaskets polyurethan and NBR
Connectors	with varistors
Mounting position	vertical pilots
Temperature range	-10 °C +50 °C
Monitoring circuit	inherent, dynamic
Reset	automatic

TECHNICAL SPECIFICATIONS

Model	Nominal size	Connections			Working pressure		Operations no. / 1'	Mass kg	Power consumption (each coil)		
		A	P	R	min psi	max psi			DC W	AC (VA) inrush	AC (VA) holding
313MEP-A-50	10	1/2"	3/8"	1"	30	120	200	2,2	6	16	10
314MEP-A-50	15	1/2"	1/2"	1"	30	120	180	3,8	9	23	14
314MEP-A-52	20	3/4"	1/2"	1"	30	120	180	3,8	9	23	14
316MEP-A-50	30	1"	3/4"	1 1/2"	30	120	160	7,5	9	23	14
318MEP-A-50 318MEP-A-70	40	1 1/2"	1"	2"	30	120	140	17,6	6	40	22

A

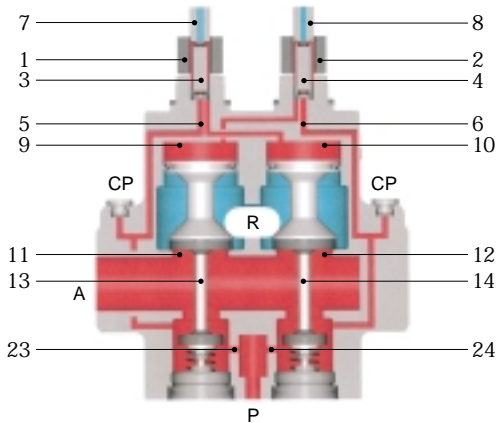


STAND BY (A)

The spring loaded pilots (3-4) of solenoid (1-2) will prevent air flow through passages (5-6) into valve chambers (9-10).

Valve connecting rods (13-14) will cause the poppets (15-16) to remain in a closed position due to incoming air pressure and combined spring pressure (21-22), outlet (A) unpressurized, remains connected to open exhaust (R).

B

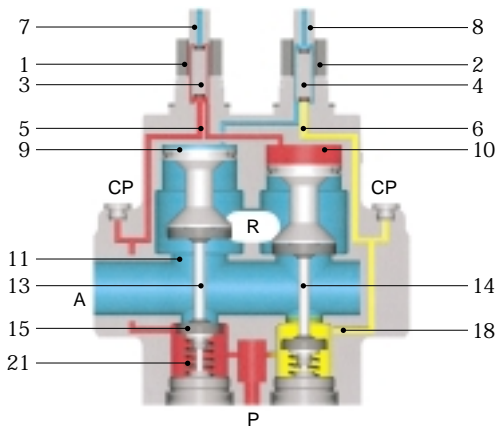


OPERATION (B)

Energizing both solenoids (1-2) simultaneously will cause the cores (3-4) to shift exhausts (7-8) and open inlets (5-6).

The charged pressure in (5-6) will flow to the piston chambers (9-10) and cause the connecting rods (13-14) to shift downward. This will allow the incoming line pressure (P) to flow through outlet (A) via passage (23-24) while simultaneously closing the path to the exhaust port (11-12).

C



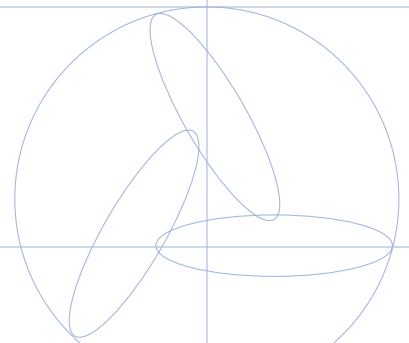
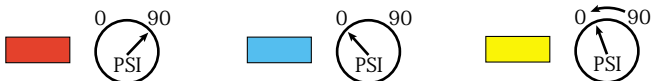
FAILURE (C)

If only one of the solenoids is deenergized (2), the deenergized pilot (4) by closing inlet (6) will connect the piston chamber (9) to exhaust (8).

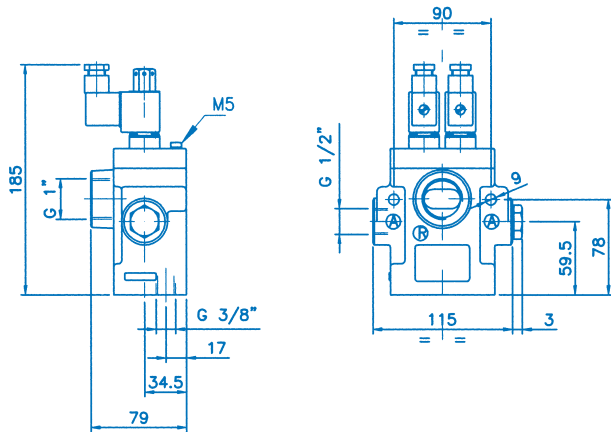
The valve element (13) will be kept pressed upward by spring pressure (21) as well as inlet pressure (P). The poppet (15) will remain closed maintaining an open path (11) to exhaust. The connecting rod (14) will cause the air to be exhausted through path (11).

Pressure in channel (6), detectable by connection (CP), will be exhausted in a few seconds. The energized pilot (2) will then prevent the output from being engaged as a result of its internal pneumatic energy being constantly exhausted. The valves, therefore, continue to internally monitor themselves with each operation.

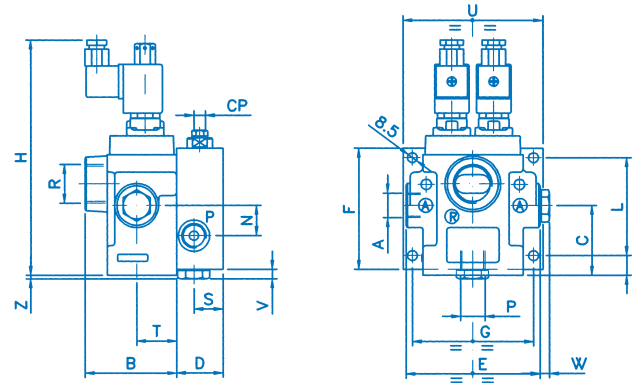
A Operating port
R Exhaust
P Supply port



313 MEP-A

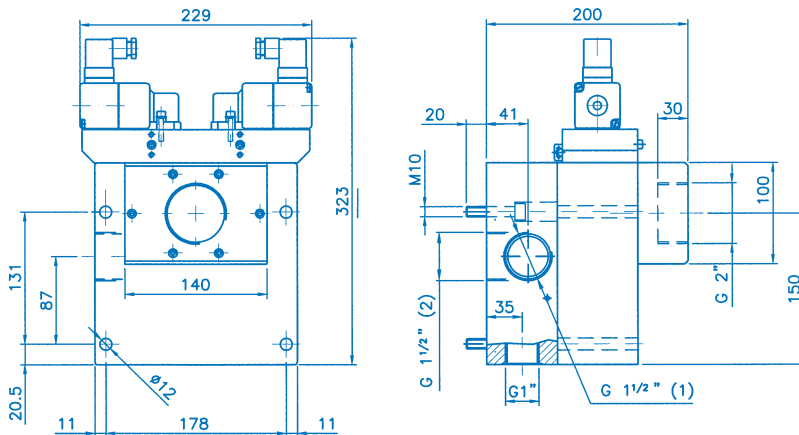


314 MEP-A / 316 MEP-A



	A	P	R	B	C	D	E	F	G	H	I	L	N	S	T	U	V	W	Z	CP
314 MEP-A-50	1/2"	1/2"	1"	79	60	40	115	100	104	202	17	84	26	25	34,5	120	3	3	-	1/8"
314 MEP-A-52	3/4"	1/2"	1"	79	58,2	40	113	100	104	202	17	84	24,2	25	34,5	120	3	3	-	1/8"
316 MEP-A	1"	3/4"	1 1/2"	104	63	40	166	120	154	239	8	104	35	20	43,5	170	7	7	7	1/8"

318 MEP-A



EMIII HZII
98151



ISO 9001



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