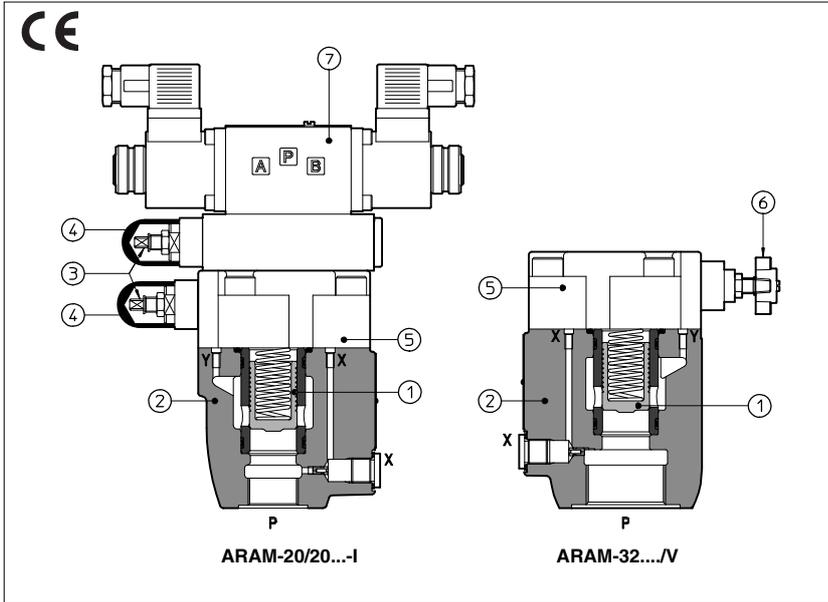


# Pressure relief valves type ARAM

two stage, in line mounting - G 3/4" and G 1 1/4" threaded ports



ARAM are double stage pressure relief valve with balanced poppet and GAS threaded ports.

In standard versions the piloting pressure of the poppet ① of the main stage ② is regulated by means of a grub screw ③ protected by cap ④ in the cover ⑤. Optional versions with setting adjustment by handwheel ⑥ instead of the grub screw are available on request. Clockwise rotation increases the pressure.

Also available in safety option with sealed regulation:

- /PED conforming to PED Directive (97/23/CE)

Set pressure at:

ARAM-20 = 25 l/min

ARAM-32 = 25 l/min

For this version the P, Q limits are shown in section 8.

ARAM can be equipped with a venting solenoid valve ⑦ (for venting or for different pressure setting). Another setting control can be made through the independent pilot port.

Threaded ports: G 3/4", G 1 1/4".

Max flow: 350, 500 l/min respectively.

Pressure up to 350 bar.

## 1 MODEL CODE

<b>ARAM</b>	<b>- 20 / 2</b>	<b>0</b>	<b>/210/100/100</b>	<b>/V</b>	<b>/*</b>	<b>-I</b>	<b>X</b>	<b>24DC</b>	<b>**</b>	<b>/*</b>
<p>ARAM = pressure relief valve threaded port connections</p> <p>Size:  <b>20</b> = port P - G 3/4"  <b>32</b> = port P - G 1 1/4"</p> <p>Number of the different setting pressure values:  <b>1</b> = one setting pressure  <b>2</b> = two setting pressure  <b>3</b> = three setting pressure</p> <p><b>0</b> = venting with de-energized solenoid  <b>1</b> = venting with energized solenoid  <b>2</b> = without venting</p> <p>Setting: see section 2 for available setting</p> <p>Pressure range of second/third setting (<b>not for /PED</b>):  <b>50</b> = 4÷50 bar; <b>100</b> = 6÷100 bar; <b>210</b> = 7÷210 bar; <b>350</b> = 8÷350 bar</p> <p>(1) Only for ARAM with solenoid valve for venting and/or for the selection of the setting pressure</p>	(1)	(1)	(1)			(1)	(1)	(1)	<p>Synthetic fluids:  <b>WG</b> = water-glycol  <b>PE</b> = phosphate ester</p> <p>Series number</p> <p>Voltage code, see section 6:  <b>00</b> = solenoid valve without coils (only for OI solenoid)</p> <p><b>X</b> = without connector                  See section 5 for available connectors, to be ordered separately</p> <p>Solenoid of pilot valve:  <b>-I</b> = solenoid OI (DHI) for AC and DC supply</p> <p><b>Only for /PED option</b>  <b>p</b> = required set pressure</p> <p>Options, see section 4  <b>/E /PED /V /WP /Y</b></p>	

## 2 HYDRAULIC CHARACTERISTICS

<b>Valve model</b>	<b>ARAM-20</b>			<b>ARAM-32</b>		
Setting	standard	50;	100;	210;	350	
	/PED					
Pressure range	standard	4÷50;	6÷100;	7÷210;	8÷350	
	/PED	10÷50;	10÷100;	10÷210;	10÷350	
Max flow	standard	350			500	
	/PED					

### 3 MAIN CHARACTERISTICS OF PRESSURE CONTROL VALVES TYPE ARAM

Assembly position / location	Any position
Ambient temperature	-20°C to + 70°C
Fluid	Hydraulic oil as per DIN 51524 . . . 535; for other fluids see section 11
Recommended viscosity	15 ÷ 100 mm <sup>2</sup> /s at 40°C (ISO VG 15 ÷100)
Fluid contamination class	ISO 19/16, achieved with in line filters at 25 µm value and β <sub>0.5</sub> ≥ 75 (recommended)
Fluid temperature	-20°C +60°C (standard and /WG seals) -20°C +80°C (/PE seals)

#### 3.1 Coils characteristics

Insulation class	H
Connector protection degree	IP 65
Relative duty factor	100%
Supply voltage and frequency	See electric feature 7
Supply voltage tolerance	± 10%

### 4 OPTIONS

**/E** = external pilot

**/PED** = conforming to Directive 97/23/CE (not available with option /V)

**/V** = regulating handwheel instead of grub screw protected by cap (for handwheel features, see table K150), (not available with option /PED)

**/W/P** = prolonged manual override protected by rubber cap (only for ARAM with pilot solenoid valve)

**/Y** = external drain (only for ARAM with pilot solenoid valve)

### 5 ELECTRIC CONNECTORS ACCORDING TO DIN 43650 FOR ARAM WITH SOLENOID VALVE

The connectors must be ordered separately

Code of connector	Function
<b>SP-666</b>	Connector IP-65, suitable for direct connection to electric supply source
<b>SP-667</b>	As SP-666 connector IP-65 but with built-in signal led, suitable for direct connection to electric supply source

For other available connectors see tab. E010 and K500.

### 6 ELECTRIC FEATURES FOR ARAM WITH SOLENOID VALVE

Type of solenoid	External supply nominal voltage ± 10% (1)		Voltage code	Type of connector	Power consumption (3)	Code of spare coil	Colour of coil label
OI	DC	6 DC	<b>6 DC</b> <b>12 DC</b> <b>24 DC</b> <b>48 DC</b>	SP-666 or SP-667	33 W	SP-COU-6DC /80 SP-COU-12DC /80 SP-COU-24DC /80 SP-COU-48DC /80	brown green red silver
		12 DC					
24 DC							
48 DC							
AC	AC	110/50 AC (2)	<b>110/50/60 AC</b> <b>120/60 AC</b> <b>230/50/60 AC</b> <b>230/60 AC</b>	SP-666 or SP-667	60 VA (4)	SP-COI-110/50/60AC /80 SP-COI-120/60AC /80 SP-COI-230/50/60AC /80 SP-COI-230/60AC /80	yellow white light blue silver
		120/60 AC					
		230/50 AC (2)					
		230/60 AC					

(1) For other supply voltages available on request see technical table E010.

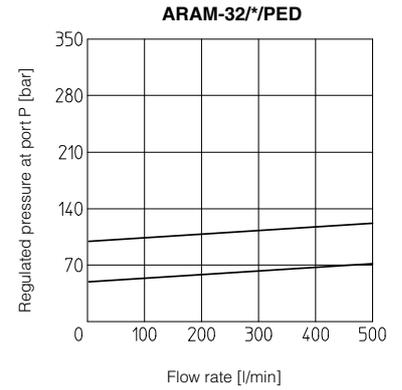
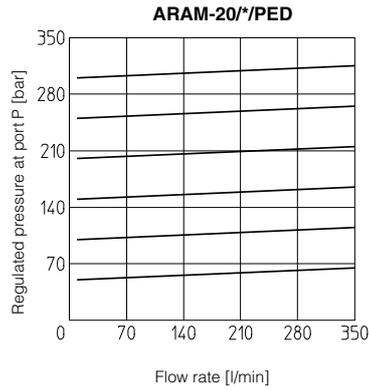
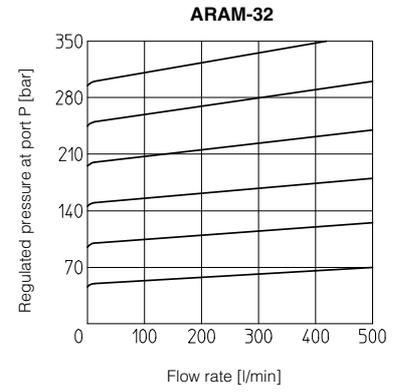
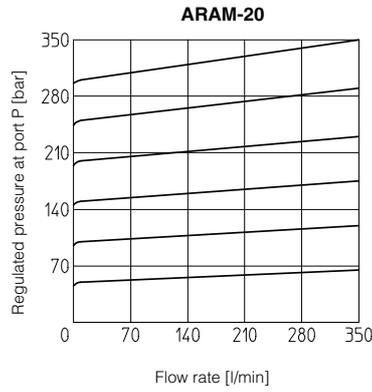
(2) Coil can be supplied also with 60 Hz of voltage frequency: in this case the performances are reduced by 10 ÷ 15% and the power consumption is 55 VA.

(3) Average values based on tests performed at nominal hydraulic condition and ambient/coil temperature of 20°C.

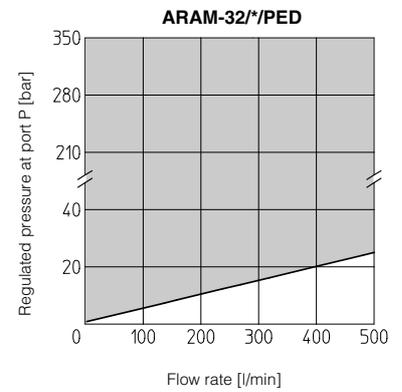
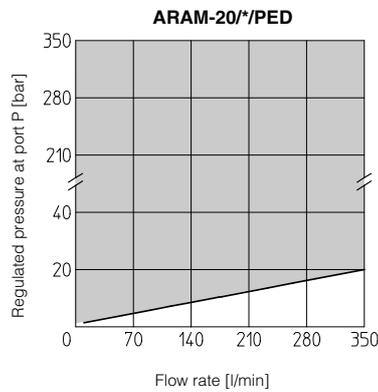
(4) When solenoid is energized, the inrush current is approx 3 times the holding current.

Inrush current values correspond to a power consumption of about 150 VA.

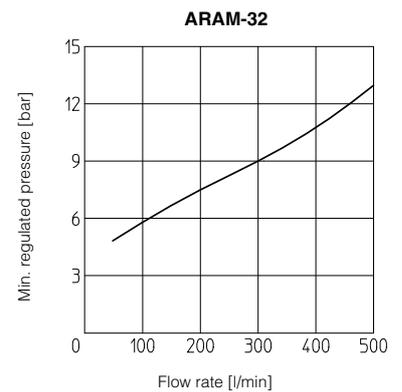
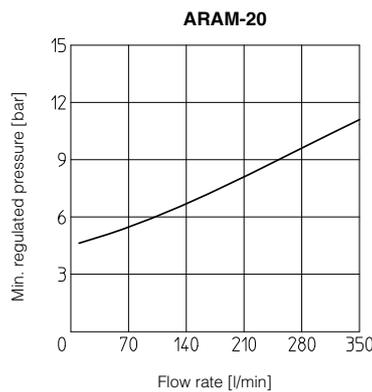
**7 REGULATED PRESSURE VERSUS FLOW DIAGRAMS** based on mineral oil ISO VG 46 at 50°C



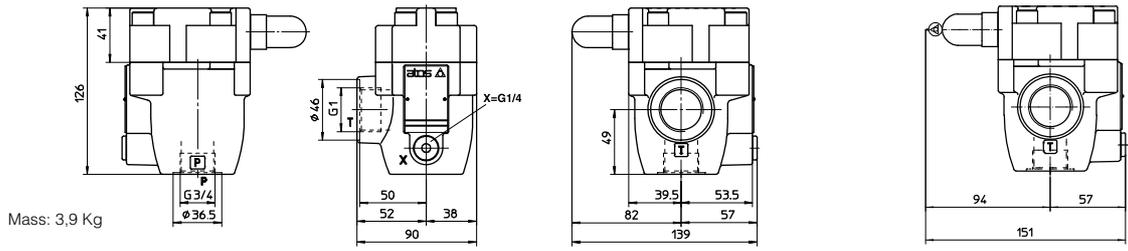
**8 PERMISSIBLE RANGE (shared area)** based on mineral oil ISO VG 46 at 50°C



**9 MINIMUM PRESSURE VERSUS FLOW DIAGRAMS** based on mineral oil ISO VG 46 at 50°C



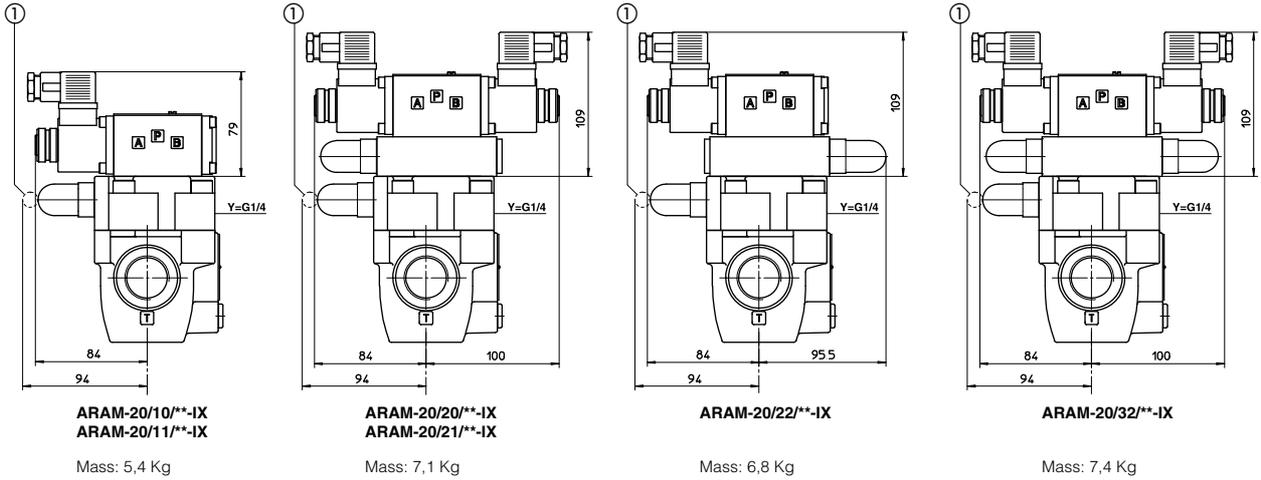
### ARAM-20



Mass: 3,9 Kg

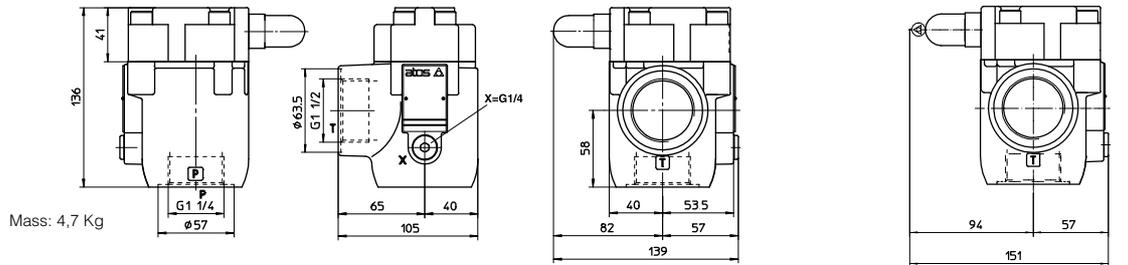
X = port connection for external pilot  
Y = port connection for external drain

OPTION /PED



① = sealed adjustment only for /PED option

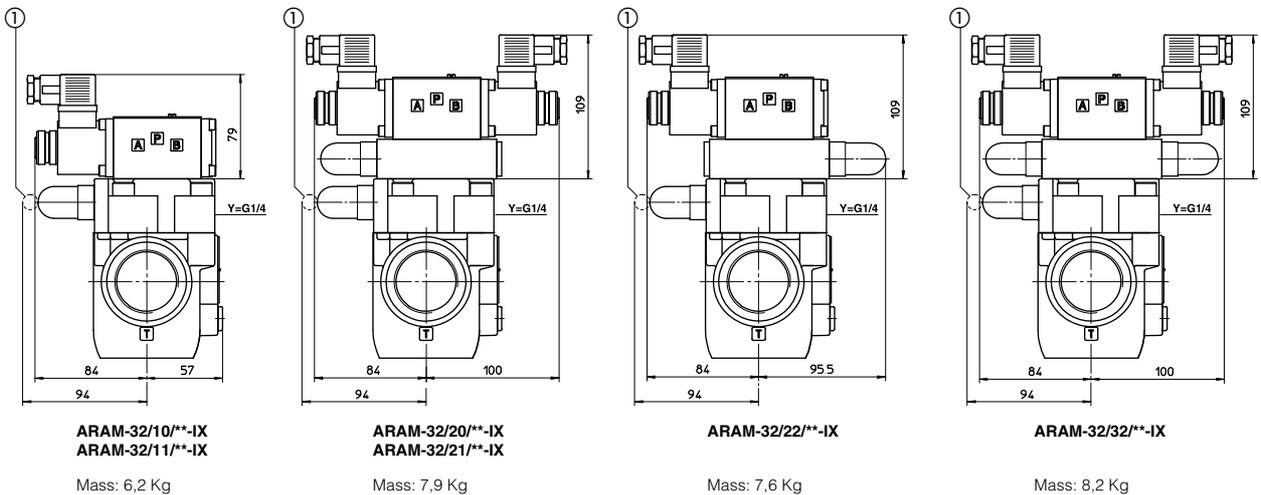
### ARAM-32



Mass: 4,7 Kg

X = port connection for external pilot  
Y = port connection for external drain

OPTION /PED



① = sealed adjustment only for /PED option

Overall dimensions refer to valves with connectors type SP-666