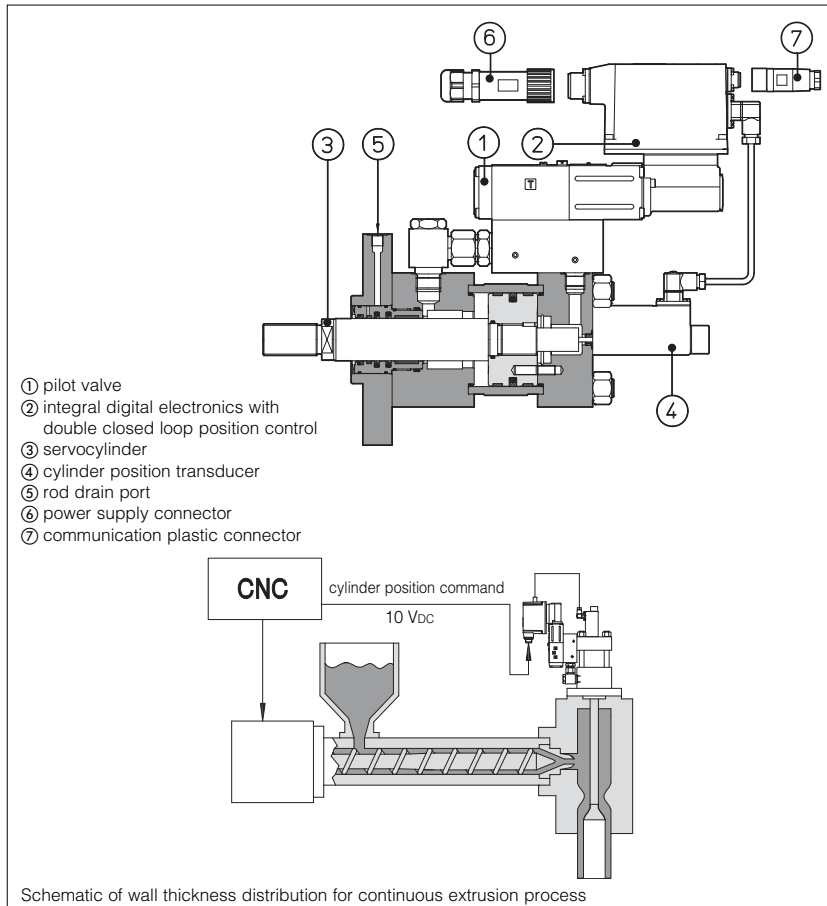


Digital servoactuators for PARISON controls

in blow molding machines



Description:

The Parison control is a well known process used in the plastic blow molding machines for the wall thickness distribution of continuous extruded profiles. It is mainly used to obtain hollow items, as plastic bottles, tanks, etc, whose thickness can be modulated depending to the required localized mechanical resistance. The wall thickness is realized by means of a specific servoactuator operated in position closed loop control (see below the application scheme).

The Atos servoactuators CKZ are special proportional servo cylinders with digital integral position control, providing high performances and high regulation repeatability.

The integral and compact execution ensures the best stiffness of the hydraulic system and it permits high dynamics and position accuracy.

Characteristics:

- The digital servoactuator is composed by:
- Special cylinder equipped with low friction seals and with LVDT position transducer. The rod end is threaded for the connection to the extrusion head
 - High dynamic proportional valve with zero lapped spool and LVDT position transducer
 - Digital integral electronics with double position closed loop control of pilot valve and of cylinder rod. The RS232 serial communication interface permits to optimize the application's performances, modifying via software, the internal parameters by means of the relevant programming device KIT-E-SW-PS to be used with standard PC

The servoactuator is operated by means of analog commands sent to the 7 or 12 pins power supply connector.

The command signal 0-10 Vdc defines the servocylinder rod position in the stroke range 0-12 mm.

The default condition is 0 Vdc = rod position fully in; 10 Vdc = rod position 12 mm.

Available sizes: ϕ 63/28, ϕ 80/36, ϕ 100/45, ϕ 125/45 ϕ 160/70, ϕ 200/90 mm.
Stroke: 12 mm.

1 MODEL CODE

060810	CKZ - X	L - NN - 1	0 - 80/36	*0012 - A - PS / GP	* / *
Mounting flange with threaded holes					
Servoactuator type: CKZ = ISO 6020-2					
Control type: X = position/speed					
Position/speed transducer type: L = LVDT					
No pressure/force control and no pressure/force transducer					
Proportional valve size: 1 = size 06 (only for cylinder size 63/28, 80/36, 100/45) 2 = size 10 (only for cylinder size 160/70 and 200/90)					
Subplate type: 0 = standard					
					Rod position vs. position signal: - = fully in at 0 Vdc B = fully out at 0 Vdc Power supply connector - = 7 pin Z = 12 pin Parison control RS232 serial communication interface Front flange attachment Stroke = 12 mm
					Piston/rod size [mm] (1) 63/28 80/36 100/45 125/45 160/70 200/90

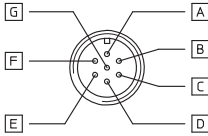
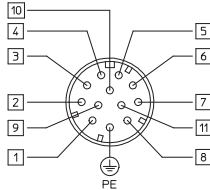
2 SERVOACTUATOR COMPOSITION

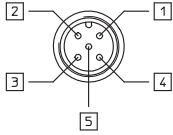
Servoactuator model code	Servocylinder code	Servoproportional pilot valve code (see tab. F180)
060810 CKZ-XL-NN-10-63/28*0012-A-PS/GP	07K0323 CKT/10-9-63/28*0012-A002-L-B1X1	050321 DLHZO-TEZ-LN-PS-040-L51/B
060810 CKZ-XL-NN-10-80/36*0012-A-PS/GP	02K1260 CKT/10-9-80/36*0012-A002-L-B1X1	
060810 CKZ-XL-NN-10-100/45*0012-A-PS/GP	06K0120 CKT/10-9-100/45*0012-A002-L-B1X1	
060810 CKZ-XL-NN-10-125/45*0012-A-PS/GP	06K0122 CKT/10-9-125/45*0012-A002-L-B1X1	
060810 CKZ-XL-NN-20-160/70*0012-A-PS/GP	06K0219 CKT/20-9-160/70*0012-A002-L-B1X1	
060810 CKZ-XL-NN-20-200/90*0012-A-PS/GP	08K0125 CKT/20-9-200/90*0012-A002-L-B1X1	060288 DLKZOR-TEZ-LN-PS-140-L31/B

3 MAIN CHARACTERISTICS

Bore diameter	[mm]	63	80	100	125	160	200
Rod diameter	[mm]	28	36	45	45	70	90
Working stroke	[mm]	12					
Max pressure	[bar]	160					
Max force (kN)	Pull	40	64	100	170	260	400
	Push	50	80	125	190	320	500
Max speed	[m/s]	0,5					
Command signal	[VDC]	0 ÷ 10 (0V = rod fully in: standard) (0V = rod fully out: option /B)					
Linearity		0,03 %					
Response time at step signal (0-100%)	[ms]	85	115	300	320	300	

4 INTEGRAL DIGITAL ELECTRONICS WIRING

 <p>POWER SUPPLY CONNECTOR (front view)</p>			 <p>12 PIN POWER SUPPLY CONNECTOR - OPTION /Z (front view)</p>		
POWER SUPPLY CONNECTOR (STANDARD)			POWER SUPPLY CONNECTOR (OPTION /Z)		
PIN	SIGNAL DESCRIPTION	TECHNICAL SPECIFICATION	PIN	SIGNAL DESCRIPTION	TECHNICAL SPECIFICATION
A	Power supply 24 V _{DC}	Stabilized: +24V _{DC}	1	Power supply 24 V _{DC} (power stage)	Stabilized: +24 V _{DC}
B	Power supply zero	Filtered and rectified: V _{rms} = 21 ÷ 33 (ripple max 2V _{pp})	2	Power supply 0 V _{DC} (power stage)	Filtered and rectified: V _{rms} 21-33 (ripple max 2 V _{pp})
C	Signal zero	Reference 0 V _{DC}	3	Enable	Enabling input normal working 24 V _{DC}
D	Input signal +	0 ÷ 10 V _{DC}	4	Input signal +	0 ÷ 10 V _{DC}
E	Input signal -		5	Signal zero	Reference signal 0 V _{DC}
F	Monitor (Rod position)	0 ÷ 10 V 1 V = 10% of cylinder stroke	6	Monitor (rod position)	1V = 10% of rod position (referred to pin 5)
G	Earth	Connect only when the power supply is not conform to VDE 0551 (CEI 14/6)	7	NC	Not connected
			8	NC	Not connected
			9	Power supply 24 V _{DC} (logic stage)	Stabilized: +24 V _{DC}
			10	Power supply 0 V _{DC} (logic stage)	Filtered and rectified: V _{rms} 21-33 (ripple max 2 V _{pp})
			11	Fault	Alarm = 0 V _{DC} Correct functioning = +24 V _{DC}
			PE	Earth	Connect only when the power supply is not conform to VDE 0551 (CEI 14/6)

COMMUNICATION CONNECTOR		 <p>COMMUNICATION CONNECTOR (front view)</p>	
Communication options	PS (RS232) male connector		
Pin number Signal description	1		NC Not Connected
	2		NC Not Connected
	3		RS_GND Signal zero data line
	4		RS_RX Valves receiving data line
	5	RS_TX Valves transmitting data line	

5 MODEL CODE of power supply and communication connectors (to be ordered separately)

POWER SUPPLY CONNECTOR	COMMUNICATION CONNECTOR
SP-ZH-7P	SP-ZH-5P
SP-ZH-12P (option /Z)	

6 PROGRAMMING DEVICES

The functional parameters of the servoactuator, as the bias, scale, ramp and linearization of the regulation characteristic, can be easily set and optimized with graphic interface by using the following software programming devices suitable for standard PC:

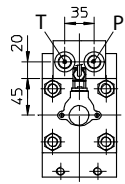
KIT-E-SW-PS for electronics with RS232 interface (option **-PS**) see tab. G500 for complete information about the programming device kits and for the PC minimum requirements.

The above programming devices have to be ordered separately.

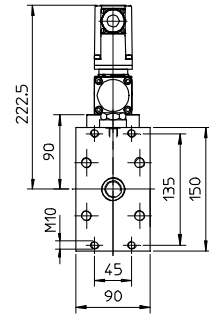
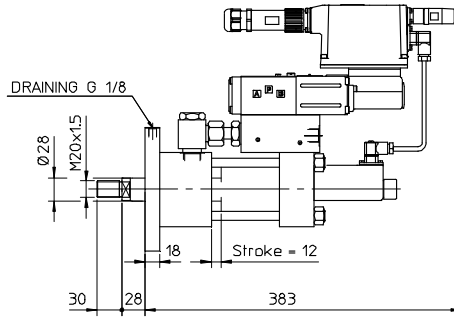
7 INSTALLATION DIMENSION [mm]

060810 CKZ-XL-NN-10-63/28*0012-A-PS-GP

P, T = 3/8"

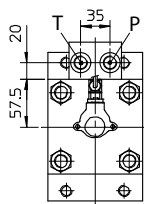


Mass: 18 kg

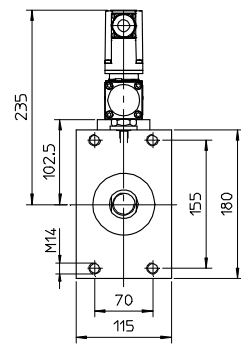
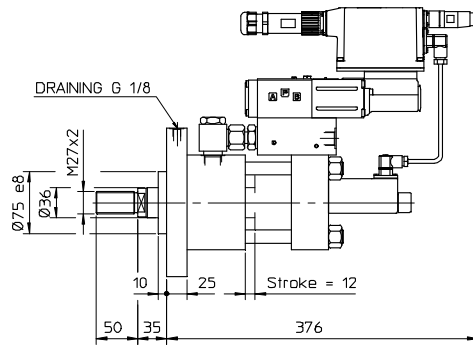


060810 CKZ-XL-NN-10-80/36*0012-A-PS-GP

P, T = 3/8"

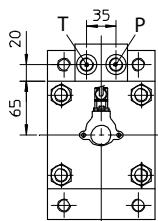


Mass: 26 kg

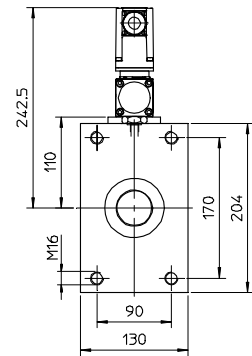
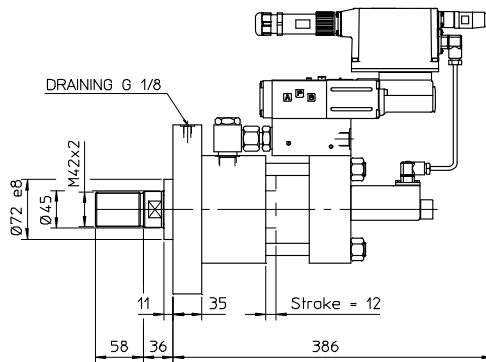


060810 CKZ-XL-NN-10-100/45*0012-A-PS-GP

P, T = 3/8"

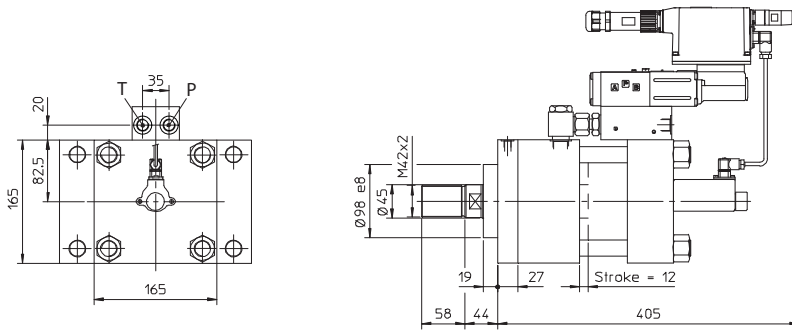


Mass: 36 kg

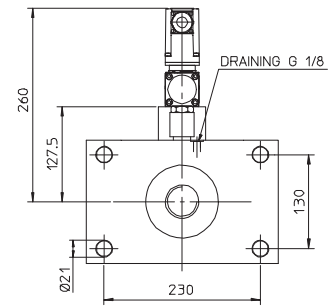


060810 CKZ-XL-NN-10-125/45°0012-A-PS-GP

P, T = 3/8"

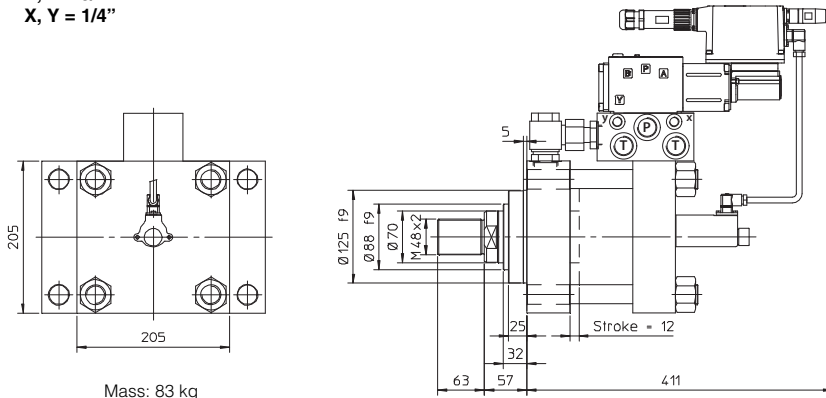


Mass: 53 kg

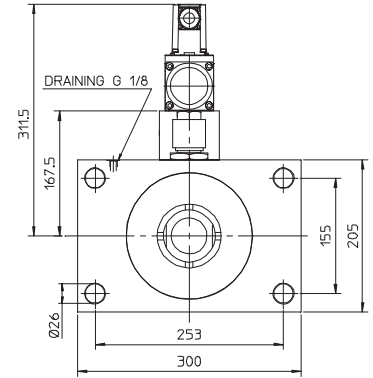


060810 CKZ-XL-NN-20-160/70°0012-A-PS-GP

P, T = 3/4"
X, Y = 1/4"

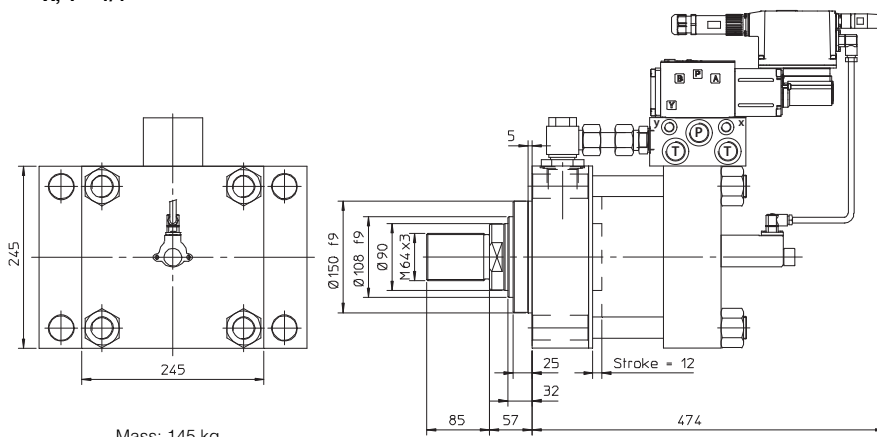


Mass: 83 kg



060810 CKZ-XL-NN-20-200/90°0012-A-PS-GP

P, T = 3/4"
X, Y = 1/4"



Mass: 145 kg

