



MECHATRONIK

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Working pieces out of the gravity-feed magazine will be separated and supplied on a deposit.

The fill level of the magazine is checked by a one-way light barrier and the work piece on the deposit is checked by a micro switch. The characteristics of the working pieces will be measured by a optical and inductive sensors. A double-acting piston moves each one work piece out from the magazine. The extreme position of the piston is determined with a contact less sensor.

The control of the cylinder is done with an electric valve.



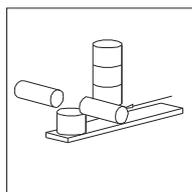
Design:

- Al-T-groove plate 160 mm x 400 mm
- Data interface
- Compact valve block
- distributing magazine for cylindrical work pieces
- measuring unit at the deposit for work pieces

Areas of training:

- Separation of working pieces out of the distributing magazine
- Working pieces supping on a deposit without collision
- micro switch for position measurement
- one-way light barrier
- optic sensor
- inductive sensor
- double-acting piston
- 5/2 directional valve, bistable

Combination



Technical data :

Sensors: 6	2 cylinder switch
	1 one-way light barrier
	1 micro switch
	1 optic sensor
	1 inductive sensor
Actors: 1	5/2 directional valve, bistable
Compressed air:	not oiled, 5 to 6 bars
Power supply:	24 V DC (SELV)
Installation:	25-pole D-SUB connector
Compact valve block	
Work piece:	Cylinder Ø 30 mm x 20 mm (option)
Dimensions:	160 x 400 x 270 mm
Weight:	3,2 kg

Articlenumbers:

Module distributing magazine with measuring unit **99610**

Accessoires not supplied

Set of accessories and work pieces **99702**
 Control unit **99700**
 Interface cable, 25-pin **9102.52**

The gripper moves the work pieces between two modules with defined positions.
 The pneumatic gripper is adjustable step less in a range of 180°. It transports the work piece with a vacuum exhaust gripper.
 The vacuum exhaust is built-in the module.
 Lifting device with cylinder without piston
 The position of the piston is measured with a contact less sensor.
 The control of the piston is done by a electric magnet valve.



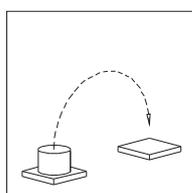
Design:

- Al-T-groove plate 160 mm x 400 mm
- Data interface
- Compact valve block
- Gripper
- Vakuum exhaust

Areas of training:

- Work pieces movement
- Gripper with wing drive
- Reed switch
- Pick up with a vacuum exhaust gripper and without a collision
- 5/2 directional valve, bistable
- 5/3 directional valve
- vacuum exhaust

Combination



Technical data :

Sensors: 2	2 Cylinder switch
Actors: 3	1 5/2 directional valve, monostable
	2 5/3 directional valve
Compressed air:	not oiled, 5 to 6 bars
Power supply:	24 V DC (SELV)
Installation:	25-pole D-SUB connector
	Compact valve block
Work piece:	Cylinder Ø 30 mm x 20 mm (option)
Dimensions:	160 x 400 x 250 mm
Weight:	3,0 kg

Articlenumbers:

Module station gripper	99611
Accessoires not supplied	
Set of accessories and work pieces	99702
Control unit	99700
Interface cable, 25-pin	9102.52

Work pieces are moved on carrier with a lifting device to the position measurement system. The position measurement device has a analog Voltage form 0 to 10V.

An analog voltage in the range from 0 to 10V can be evaluated by a PLC with analog input (material thickness measuring).

The work piece can be transferred with a pneumatic cylinder over a chute to the next station or differentiated to a depot chute. The position of the pneumatic cylinder is determined with a contact less sensor.

The control of the cylinder is done with a electric magnet valve.



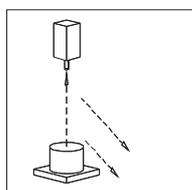
Design:

- Al-T-groove plate 160 mm x 400 mm
- Data interface
- Compact valve block
- Lifting device with cylinder without piston
- Analogy position measuring device
- Ejection device
- 2 chutes

Areas of training:

- Measurement / differentiation of material thickness with linear potentiometer
- Removal of differentiates work pieces
- Reed switch
- Double-acting pneumatic cylinder
- Cylinder without piston rod
- Removes work pieces in defined position and take out of work pieces
- 5/2 directional valve, monostable
- 5/3 directional valve, ventilated
- Positioning with a of 5/3 directional valve

Combination



Technical data:

Sensors: 5

1 Cylinder switch

3 Reed switch

1 analog transmitter

Actors:3

1 5/2 directional valve, monostable

2 5/3 directional valve

Compressed air: not oiled, 5 to 6 bars

Power supply: 24 V DC (SELV)

Installation: 25-pole D-SUB connector

Compact valve block

Work piece: Cylinder Ø 30 mm x 20 mm (option)

Dimensions: 160 x 400 x 400 mm

Weight: 4,4 kg

Articlenumbers:

Module measuring unit analog	99612
Accessoires not supplied	
Set of accessories and work pieces	99702
Control unit	99700
Interface cable, 25-pin	9102.52

Work pieces will moved with a linear drive pass three chutes.

An accompanying pneumatic output unit transports the work pieces onto the chutes according to their material characteristics.

The fill level of the chutes will be monitored with a light barrier.

A fork light barrier controls the position of the work piece carrier with a perforated plate.

Sensors check the end positions of the work piece carrier with a contact lee sensor (one-way light barrier).

The control of the pneumatic output unit is done with a electric magnet valve.



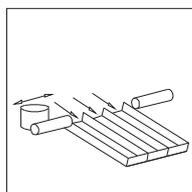
Design:

- Al-T-groove plate 350 mm x 400 mm
- Data interface
- Compact valve block
- Linear drive with pneumatic work piece carrier
- 3 Chutes
- Light barrier

Areas of training:

- Positioning with a fork light barrier
- Electrical drives
- End position with micro switch
- Reversing contactor circuit
- Light barrier for the control of a fill level
- Cylinder switch
- Double-acting pneumatic piston
- 5/2 directional valve, monostable

Combination



Technical data:

Sensors: 5	2 Micro switches
	1 Fork light barrier
	1 One-way light barrier
	1 Cylinder switch
Actors:3	2 control units motors
	1 5/2 directional valve, monostable
Compressed air:	not oiled, 5 to 6 bars
Power supply:	24 V DC (SELV)
Installation:	25-pole D-SUB connector
Compact valve block	
Work piece:	Cylinder Ø 30 mm x 20 mm (option)
Dimensions:	320 x 400 x 150 mm
Weight:	5,8 kg

Articlenumbers:

Module storing for work pieces three depots	99613
Accessoires not supplied	
Set of accessories and work pieces	99702
Control unit	99700
Interface cable, 25-pin	9102.52

Control unit Type

Typ 99700

The control unit is built-in a stable case made of aluminum.

The feet fix on the control unit on the table with very good foothold.

The control panel has a 25-pole D-SUB connector for the installation at the control.

Technical data:

- 2 illuminated pushbutton, normally open contact
- 1 illuminated pushbutton, Normally closed contact
- 1 tommy switch
- 2 signal lamps
- 25-pole D-SUB connector



Articlenumber:

Control unit Type

99700

Pressure control unit

Typ 99701

- Filter pressure control with 5 μm half-automatic outlet port
- Filter case made of polycarbonate pressure regulator with pressure gauge, adjusting head turn able and lockable.
- 3/2-directional control valve, manual isolating valve
- The maintenance unit can be mounted on a mounting plate.
- Connection \varnothing 6mm connector
- Output \varnothing 6mm connector
- adjustment range 0,05 0,7 mpa

Further information:

The maintenance unit is not contained in the scope of delivery of the MCS module. With the handling of an entire plant, consisting of 4 MCS modules, only one maintenance unit is necessary. If each MCS module is operated, it needs the maintenance unit.



Articlenumber:

Pressure control unit

99701

Set of accessories and work pieces

Typ 99702

- Storage box
- Screwdriver 2 mm
- 1 crosstip screwdriver size 5
- 1 set of wrenches with ball-shaped head
- 1 tube cutter
- 8 profile connectors with screw thread
- 4 end caps aluminium profile 20x20
- 4 end caps aluminium profile 30x30
- 9 workpieces Ø30 mm
- Aluminium
 - 2 x H=20 mm, 1 x H=21 mm
- Plastic black
 - 2 x H=20 mm, 1 x H=19 mm
- Plastic light
 - 3 x H=20 mm

Further Information:

A Set of accessories and work pieces is recommendable/sufficient for the use a mechatronic system consisting of eight modules



Articlenumber:

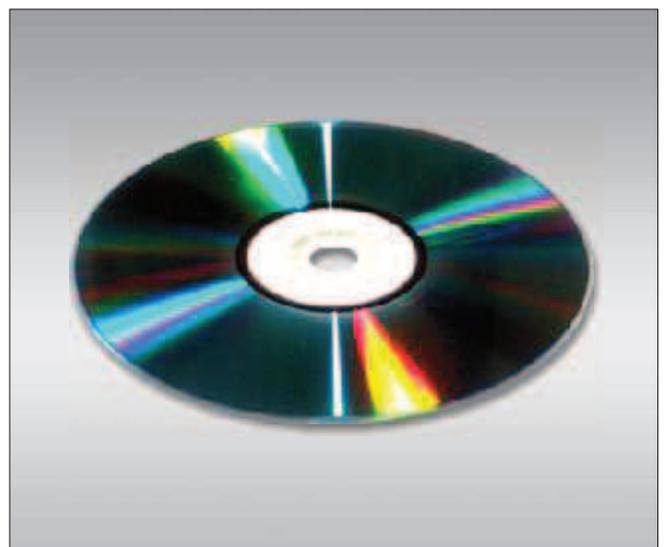
Set of accessories and work pieces

99702

Teachware

Typ 99800

The Teachware is a description for the mechatronic system MCS and the areas of training. The modules of the mechatronic system MCS are described and commissioning of the system is illustrated. Along with the technical documentation a program for a Siemens S7 is supplied. With that program the system can be controlled.



Articlenumber:

Teachware light

99800