

**TECHNICAL SPECIFICATION
FOR
Pneumatic Trainer Kit**

TECHNICAL SPECIFICATIONS

1. Electro-Pneumatic Trainer Kit

Features

- Sleek and rugged design
- Industrial components
- A unique Snap-on mounting base saves time in mounting & removal of components
- Industrial application focused exercises
- Suitable for modular aluminum extruded profile plate
- Upgradation and expansion possible



Application

The Basic Electro-Pneumatic trainer kit is designed with capability to demonstrate the design, construction and application of Electro pneumatic components and circuits. Applicable to various disciplines in academic institutions like Mechanical, Mechatronics, Production, Instrumentation and more, and for companies having ISO & TPM training systems.

Technical Specifications

Ordering Code	-
Installation	Vertical / Horizontal
Ambient temperature	60°C Max.
Medium	Filtered Compressed air
Max. Operating Pressure	6 bar
Materials of construction	Aluminium, Brass, Steel, Nitrile rubber, Acetal

Functions:

- Function of air preparation units filter, regulator and lubricator
- One touch fittings and tubing for easy connect and disconnect
- Solenoid valves for actuator control
- Position sensing using magnetic sensors
- Operation of signal elements
- Cables with banana plugs for easy connect & disconnect.
- Creation of basic electro pneumatic circuits
- Operation of single acting and double acting cylinder
- Latching of solenoid coils using Relay
- Function of 4C/O Relay
- Understanding of Latching circuits
- Creation of basic electro pneumatic circuits using relay

TECHNICAL SPECIFICATIONS

List of Items

Ref. No	Product Name	Product No.	Qty	Uom
1	Pneumatic Trainer Kit	CS40834	1	Nos
1.1	Single acting cylinder(SAC)	MP0014	1	Nos
1.2	Miniature Double Acting Cylinder(DAC-MINI)	MP0018	1	Nos
1.3	3/2 NC Push button(Green) valve	MP0002	1	Nos
	3/2 NC Push button(Red) valve	MP0003	1	Nos
1.4	3/2 NC Single ext. pilot operated valve with spring return	MP0034	1	Nos
1.5	Flow control valve unit	MP0010	2	Nos
1.6	5/2 Valve with Lever head switch	MP0029	1	Nos
1.7	5/2 External pilot with spring return	MP0007	1	Nos
1.8	5/2 Double external pilot operated valve	MP0006	1	Nos
1.9	M5 Roller lever valve - Forwarding	MP0070	1	Nos
	M5 Roller lever valve - Reversing	MP0071	1	Nos
1.10	Shuttle valve (OR valve)	MP0011	1	Nos
1.11	Dual Pressure valve(AND Valve)	MP0016	1	Nos
1.12	Pressure gauge 0-16 bar	MP0328	1	Nos
1.13	Junction box with slide valve	MP0001	1	Nos
1.14	Electrical Push button module	MP0059	1	Nos
1.15	Relay logic unit	MP0074	1	Nos
1.16	3/2 Normally closed Single solenoid pilot operated	MP0041	1	Nos
1.17	5/2 Single sol. op. valve with spring Return	MP0019	1	Nos
1.18	5/2 Double sol. op. valve(With LED)	MP0020	1	Nos
1.19	Switch mode power supply	JTK-SMPS	1	Nos
A	Mandatory Requirements			
A1	Union Tee ø4	WP2300404	4	Nos
A2	Union Y ø4	WP2400404	4	Nos
A3	Tube (PU) OD8 Blue	WH00B08	5	Meter
A4	Tube (PU) OD4 Blue	WH00B04	10	Meter
A5	Plug ø4	WP2600400	4	Nos
A6	Tube Cutter	WC1	1	Nos
A7	FRCLM with pressure gauge	MP0000	1	Nos
A8	Magnetic sensor with clamp for Miniature cylinder	MP0022	4	Nos
A9	Electrical Connection Set	MP0027	1	Nos

TECHNICAL SPECIFICATIONS

1.20	Vertical Profile Plate	JTK-PTVD-1	1	Nos
1.21	Work Table	JTK-PTHWB-1	1	Nos
	Draw unit	JTK-PTD/W-1	1	Nos
1.22	Carrier mounting for components (such as PB & Relay boxes)	JTK-ECT-01	1	Nos
1.23	Cut Section – Pneumatics			
1.23.1	3/2 NC Hand lever sp. return valve	-	1	Nos
1.23.2	1/8 -5/2 Hand lever detent valve	-	1	Nos
1.23.3	1/8 -5/2 Double Sol. Valve	-	1	Nos
1.23.4	1/8 -3/2 Single Sol. Valve	-	1	Nos
1.23.5	SA 32 x 80 Cyl. Basic	-	1	Nos
2	Silent Compressor 50L	JTK-COMP-02	1	Nos

TECHNICAL SPECIFICATIONS

1. Pneumatic Trainer Kit

1.1 Single acting cylinder


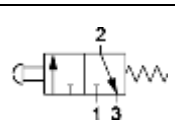
Symbol	Ordering No	
	MP0014	
Technical specifications		
Cylinder bore size	25 dia	
Stroke	50 mm	
Type	Miniature cylinder (magnetic)	
Pressure range	0.5 - 10 bar	
Tubing Connection	Inlet / Outlet – $\varnothing 4$	
Mounting	Turn to Lock / Unlock	

1.2 Miniature double acting cylinder


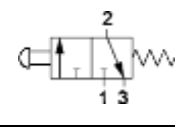
Symbol	Ordering No	
	MP0018	
Technical specifications		
Cylinder bore size	25 dia	
Stroke	100 mm	
Type	Miniature cylinder (magnetic)	
Pressure range	0.5 -10 bar	
Tubing Connection	Inlet / Outlet – $\varnothing 4$	
Mounting	Turn to Lock / Unlock	

TECHNICAL SPECIFICATIONS

1.3 3/2 NC Push button (Green) valve


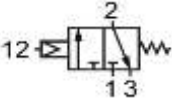
Symbol	Ordering No	
	MP0002	
Technical specifications		
Type	Push button (Green) – 3/2	
Operation	Spring return	
Pressure range	1 - 8 bar	
Tubing connection	Inlet / Outlet – ø4	
Mounting	Press to lock / Unlock	

3/2 NC Push button (Red) valve


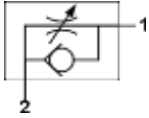
Symbol	Ordering No	
	MP0003	
Technical specifications		
Type	Push button (Red) – 3/2	
Operation	Spring return	
Pressure range	1 - 8 bar	
Tubing connection	Inlet / Outlet – ø4	
Mounting	Press to lock / Unlock	

TECHNICAL SPECIFICATIONS

1.4 3/2 external pilot with spring return


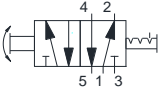
Symbol	Ordering No	
	MP003 4	
Technical specifications		
Type	3/2	
Operation	Single external pilot with spring return	
Pressure range	2 - 10 bar	
Tubing connection	Inlet / Outlet – $\varnothing 4$	
Mounting	Press to Lock / Unlock	

1.5 Flow Control valve


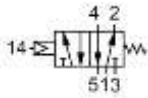
Symbol	Ordering No	
	MP0010	
Technical specifications		
Type	Inline	
Pressure range	1 - 10 bar	
Tubing Connection	Inlet / Outlet – $\varnothing 4$	
Control type	Bidirectional	
Mounting	Press to Lock/Unlock	

TECHNICAL SPECIFICATIONS

1.6 5/2 Valve with lever head switch


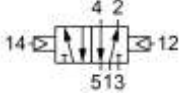
Symbol	Ordering No	
	MP0029	
Technical specifications		
Type	5/2	
Operation	Lever head operated with detent	
Pressure range	2 - 10 bar	
Tubing connection	Inlet / Outlet – ø4	
Mounting	Press to Lock / Unlock	

1.7 5/2 external pilot with spring return


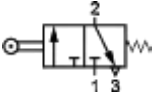
Symbol	Ordering No	
	MP0007	
Technical specifications		
Type	5/2	
Operation	Single external pilot with spring return	
Pressure range	2 - 10 bar	
Tubing connection	Inlet / Outlet – ø4	
Mounting	Press to Lock / Unlock	

TECHNICAL SPECIFICATIONS

1.8 5/2 Double external pilot operated valve (Memory valve)


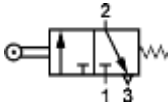
Symbol	Ordering No	
	MP0006	
Technical specifications		
Type	5/2	
Operation	Double external pilot	
Pressure range	2 – 10 bar	
Tubing connection	Inlet / Outlet – $\varnothing 4$	
Mounting	Press to Lock / Unlock	

1.9 M5 Roller lever valve (Forwarding)


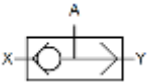
Symbol	Ordering No	
	MP0070	
Technical specifications		
Type	3/2	
Operation	Roller lever with spring return	
Pressure range	2 - 10 bar	
Tubing connection	Inlet / Outlet – $\varnothing 4$	
Mounting	Turn to Lock / Unlock	

TECHNICAL SPECIFICATIONS


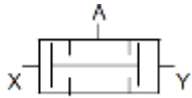
M5 Roller lever valve (Reversing)

Symbol	Ordering No	
	MP0071	
Technical specifications		
Type	3/2	
Operation	Roller lever with spring return	
Pressure range	2 - 10 bar	
Tubing connection	Inlet / Outlet – $\varnothing 4$	
Mounting	Turn to Lock / Unlock	

1.10 Shuttle Valve (OR valve)


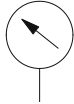
Symbol	Ordering No	
	MP0011	
Technical specifications		
Type	Or pressure type	
Pressure range	1.5 - 10 bar	
Tubing connection	Inlet / Outlet – $\varnothing 4$	
Mounting	Press to Lock / Unlock	

1.11 Dual pressure valve (AND valve)


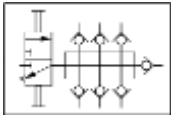
Symbol	Ordering No	
	MP0016	
Technical specifications		
Type	And pressure type	
Pressure range	1.5 - 10 bar	
Tubing connection	Inlet / Outlet – $\varnothing 4$	
Mounting	Press to Lock / Unlock	

TECHNICAL SPECIFICATIONS


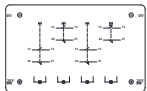
1.12 Pressure gauge

Symbol	Ordering No	
	MP0328	
Technical specifications		
Pressure range	0 - 16 bar	
Tubing Connection	Inlet / Outlet – $\varnothing 4$	
Mounting	Press to Lock / Unlock	

1.13 Junction box with slide valve



Symbol	Ordering No	
	MP0001	
Technical specifications		
Operation	Sliding	
Pressure range	1 - 10 bar	
Tubing Connection	Inlet- $\varnothing 8$, Outlet- $\varnothing 4$	
No.of outputs	7 nos	
Mounting	Press to Lock/Unlock	

1.14 Electrical push button module


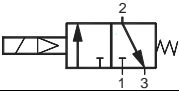
Symbol	Ordering No	
	MP0059	
Technical specifications		
Operating voltage	24V - DC	
Operation	NO / NC type with Led indicator	
Led indicator operating voltage	24V - DC	
Push button with spring return	Green colour button	
Push button with detent	Red colour button	
Mounting	Press to Lock / Unlock	

TECHNICAL SPECIFICATIONS


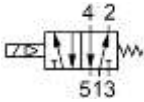
1.15 Relay logic unit 4-C/O relays

Symbol	Ordering No	
	MP0074	
Technical specifications		
Operating voltage	24 VDC	
Operation	NO / NC type	
Type	4-Change over , 3 relays	
Mounting	Press to Lock / Unlock	

1.16 3/2 Single solenoid valve


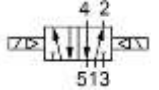
Symbol	Ordering No	
	MP0041	
Technical specifications		
Type	3/2	
Operation	Single solenoid	
Pressure range	2 – 10 bar	
Tubing connection	Inlet / Outlet – $\varnothing 4$	
Mounting	Press to Lock / Unlock	

1.17 5/2 Single solenoid operated valve with spring return (with LED)

Symbol	Ordering No	
	MP0019	
Technical specifications		
Type	5/2	
Operation	Single solenoid	
Pressure range	2 – 10 bar	
Tubing connection	Inlet / Outlet – $\varnothing 4$	
Mounting	Press to Lock / Unlock	

TECHNICAL SPECIFICATIONS

1.18 5/2 Double solenoid valve (with LED)

Symbol	Ordering No	
	MP0020	
Technical specifications		
Type	5/2	
Operation	Double solenoid	
Pressure range	2 - 10 bar	
Tubing connection	Inlet / Outlet – $\varnothing 4$	
Mounting	Press to Lock / Unlock	

1.19 Switch Mode Power Supply




Model	JTK-SMPS
Size (in cm)	19 x 14 x 6
No. of output	1
Input	85 – 264 V AC, 47 – 63 Hz
Output	24V DC, 4.5A
Output indication	LED indicator, AMBER color
Protection (Overload & Short circuit)	Fuse glass type (Input 2A; Output 4A)
Power Inlet	ELCOM EMI-11 socket 3Pin , Type D
Material	ABS


TECHNICAL SPECIFICATIONS

A. Mandatory Requirements


A1. Union tee dia 4

Ordering No	WP2300404	
Technical specifications		
Type	One touch fittings	
Max. Pressure	10 bar	
Tubing Connection	Ø4	


A2. Union Y dia 4

Ordering No	WP2400404	
Technical specifications		
Type	One touch fittings	
Max. Pressure	10 bar	
Tubing Connection	Ø4	

A3. PU tube OD8 (blue)


Ordering No	WH00B08	
Technical specifications		
Type	One touch fittings	
Max. Pressure	10 bar	
Tubing size	Ø8	

A4. PU tube OD4 (blue)


Ordering No	WH00B04	
Technical specifications		
Type	One touch fittings	
Max. Pressure	10 bar	
Tubing size	Ø4	

TECHNICAL SPECIFICATIONS


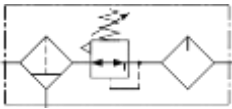
A5.Plug dia 4

Ordering No	WP2600404	
Technical specifications		
Type	One touch fittings	
Max. Pressure	10 bar	
Tubing Connection	Ø4	

A6. Tube cutter


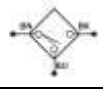
Ordering No	WC1	
Technical specifications		
Type	One touch fittings	

A7. FRCLM with pressure gauge


Symbol	Ordering No	
	MP0000	
Technical specifications		
Port size	1 / 4"	
Flow rate	500 lts / min	
Filtration	40 micron	
Pressure range	1 - 10 bar	
Tubing Connection	Inlet / outlet Ø8	
Mounting	Press to Lock/Unlock	

TECHNICAL SPECIFICATIONS

A8.Magnetic sensor with clamp

Symbol	Ordering No	
	MP0022	
Technical specifications		
Operating voltage	DC 24V	
Switching logic	Solid state output -PNP	
Connection type	3 pin male QD connector	
Mounting	Clamping type	

A9. Electrical connection set

Ordering No	MP0027	
Technical specifications		
Connector type	4mm Banana plug	
Cable colours	Red and black	
Cable Length in mm & Qty	Red – 1000x1, 750x2, 300x8	
	Black - 1000x1, 300x6	

TECHNICAL SPECIFICATIONS

1.20 & 1.21 Workstation for ITI



Technical specifications	
Work Table	
Ordering No	JTK-PTHWB-1
Size (L x W x H) in mm	1200 x 900 x 900
Material	Aluminium, steel, and Wood
Vertical Profile Plate	
Model	JTK-PTVD-1
Size (in mm)	1200x720x40 (With side mounting 120mm)
Profile groove width	8.3 mm
Groove to groove distance	40 mm
Material	Aluminium, Steel
Draw unit	
Ordering No	JTK-PTD/W-1
Size (in mm)	470 x 565 x825
No. of rack	5
Lock	5 (each 1 / Rack)
Material	Steel

1.22. Carrier mounting for components (such as PB & Relay boxes)



Ordering No	JTK-ECT-1
Size (L x W x H) in cm	120 x 12 x 4
Profile groove width	8.3 mm
Material	Anodised Aluminium, steel

TECHNICAL SPECIFICATIONS

1.23. Cut Section – Pneumatics

Features

- Compact, Handy and Sleek design
- Precut foam for component storage
- Visualisation of internal elements
- Effortless handling of components



(This image is for representation purpose only)

Application

Pneumatic cut section enables a trainer to demonstrate the internal construction of a product with real world products that are to actual scale and makes the trainees to visualise them and gives a realistic view of components in a better way than the graphical representations on books and animations.

Technical Specifications

Ordering Code	-
Size (in cm)	40 x 40 x 20
Installation	Vertical/ Horizontal
Ambient temperature	60°C Max.
Materials of construction	Aluminium, Polyacetal, Steel, Rubber

Parts list

S. No	Description	Qty
1.	3/2 NC Hand lever sp. return valve	1
2.	1/8 -5/2 Hand lever detent valve	1
3.	1/8 -5/2 Double Sol. Valve	1
4.	1/8 -3/2 Single Sol. Valve	1
5.	SA 32 x 80 Cyl. Basic	1

TECHNICAL SPECIFICATIONS

2. Silent compressor



Model	JTK-COMP-02
Size (in cm)	43 x 43 x 64
HP	2 (1.5 Kw)
Input	240 LPM
Output	136 LPM
Tank	50 litre
Noise (dB)	55
Max. Pressure	8 Bar / 120 PSI
Power supply	230V, 50Hz
Power cord	3Pin , Type D
Material	Steel