



52288 Transparent Hydraulic Trainer outlines the basic Principle of Hydraulic Control System, hydraulic Control System Components & its applications.

Features

- · Compact Ergonomic Design.
- ISO Symbol for each mounted components
- User Friendly, Self Explanatory Systems.
- Leak proof Safety Measures, sturdy piping & Robust Construction.
- Training Manuals mimic Charts for Operation Ease.
- System Frame with Caster Wheel Arrangement for ease in movement.
- Inbuilt Safety Measures to avoid improper usage
- Wall mounting assemblies of hydraulic actuator & self-reciprocating cylinder.
- QRC couplings provided, Tubing for circulation of pressure (Hose Pipe Tubing)
- · Manifold for distribution.
- Oil Hydraulic power pack for power supply. .
- Optional component are available to allow fault operation and diagnosis training.
- Max Pressure 10 bar
- Mounted on a base plate
- Prismatic body made of transparent methacrylate.
- Two NW4 plugs self-sealing 1/8"

Experiments

- 01. Study of fundamental principles of Hydraulics & its applications.
- 02. Study of source of hydraulic power, its transmission methods and conditioning of oil used in hydraulic system
- 03. Study of single acting & double acting cylinders.
- 04. Study of Transverse & Feed Circuit.
- 05. Study of sequencing operation using Pressure Sequence Valve.
- 06. Study of Speed Control, Pressure Control & Flow Control.
- 07. Study of Direction Control.
- 08. Study of Hydraulic Solenoid Valve
- 09. Study of electrical components
- 10. Study of Hydraulic valves
- 11. Study of Hydraulic Actuators.
- 12. Study of Hydraulic Power Pack.
- 13. Study of Hydraulic Accumulator.

Note: Specifications are subject to change.

Tesca Technologies Pvt. Ltd.

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India, Tel: +91-141-2771791 / 2771792; Email: info@tesca.in, tesca.technologies@gmail.com Website: www.tescaglobal.com





Spe	ecification:-	
No.	Item Name	Technical Specifications
1	Profile Plates & Stand-	The anodized Aluminum profile plate having slots on both sides is the basis for training. All components fit securely & safely onto the profile plate with safe fixing arrangement. Grid Dimensions-50mm, Size: 1000X700mm
2	Single Acting Cylinder-	01 No. Single acting cylinder D20/D10 x 40mm of stroke. Spring return. Bore: 40 mm Stroke: $75/100$ mm, Mounting: Foot
3	Double Acting Cylinder-	01 No. Double acting cylinder D20/D10 x 58mm of stroke. Bore: 40 mm Stroke: 75/ 100mm, Mounting: Foot
4	Directional Control Valves-	4/2 way Hand Lever Operated, spring return 1 No. 4/3 way Hand Lever Operated , 2 Nos. 3/2 way Hand Lever Operated , 1 No.
5	Flow Control Valve-	1/4" QRC Connection, 2 Nos.
6	Pressure Relief Valve-	1/4" QRC Connection, 1 No. Pressure relief valve (ball), direct control Manual adjustment using the twist handle.
7	Pressure Sequence Valve	1/4" QRC Connection, 1 No.
8	Pressure Reducing Valve	1/4" QRC Connection, 1 No.
9	Block Manifold-	2 Nos.
10	Male Connector-	1/4"Quick Release Couplings
11	Pressure Gauge-	Glycerin Filled, 1 No.
12	Check valve	1/4" QRC Connection, 1 No.
13	PO Check valve	1/4" QRC Connection, 1 No.
14	Hydraulic Accumulator-	Capacity 0.075 Ltrs, mWP bar: 250 bar, Weight: 0.62 Kg, 1 No.
15	Branch Tee	2 Nos.
16	Hydraulic Hoses-	10 Nos. transparent polyurethane tubes as required
17	Needle Valve-	1/4" QRC Connection, 1 No.
18	Measuring Flask 2 Ltrs With	1 No.
	Drain Arrangement	
19	Pulley Arrangement	1 No.
	Suitable To Load	
20	Oil Hydraulic power pack-	Hydraulic pump: 3 LPM, Motor: 0.5 HP, 3 Phase Foot/Flange Motor, Suction Strainer Filter, Oil Level Indicator, Oil Tank 20 Ltr. Capacity, 1 No.
21	Hydraulic oil	20 Ltr.
22	Rolling table with twinpost	The entire rolling frame system can be disassembled for transportation The vertical panel means you can work on both sides It should have a laminated top for horizontal work The lower section features a metal shelf supporting the component storage Drawers, the silent compressor, etc 4 high-load wheel support with brake - Total dimensions: 1200x800x1600mm (approx.).
	Drawer unit for rolling table	Compact 4-drawer block with slide guides to house the component trays External dimensions: 500x725x650mm.
24	Portable hydraulic pump for	01 No. Transparent tank holding 6 liters Single-phase motor
	transparent hydraulic kit	0.12 hp, 220v, 50Hz Gear pump. Q= 1 l/min Start - stop switch Filling lid and filter Pressure relief valve - Pressure gauge with diameter 40 mm, with scale from 0 to 16 bars 3 quick connector couplings (P + 2T) - Power supply cable, length of 3 meters, with single-phase plugAir bubble insertion system

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27 Two-way flow control valve Manual adjustment by rotary knob. 28 3 way pressure relief valve with damping 01 No Two-way flow control valve, with two ports, needle. Manual adjustment by rotary knob. 29 Pressure reducing valve, 3 adjustment by rotary knob. 29 Pressure reducing valve, 3 way Direct control 30 Solenoid Valve 01 No Manual adjustment by rotary knob. 31 Manual Shut-Off Valve, 2 Way; Piloted Check Valve; One-Way Flow Control Valve; 32 Set Of Push-Buttons, Set Of Three Relays, Electrical End Of Stroke (Right & Left) 30 Power Supply: 01 No. lnput: 110 - 240 VAC - Output: 24 VDC, I= 5A Protection against short circuit and overload. Input switch LED display Supply cable included 4 mm terminals for snap connection cables. 34 4 Connection Distributors On Manifold; Cross Distributor With Pressure Gauge 01 No. Connector (2 gray and 1 black colour) + LED + cable Solenoids. 2 Gray + 1 Black mm terminals (1 red and 1 blue colour). 36 Set of electrical connectors As required with different colors and length and with 4 mm security terminals			in the circulation oil.
colouring 01 No Quantity required for portable hydraulic pump. 26 One-way restrictor 01 No. On a base plate with three NW4 plugs self-sealing 1/2 Two-way flow control valve Manual adjustment by rotary knob. 28 3 way pressure relief valve with damping 29 Pressure reducing valve, 3 way Direct control 30 Solenoid Valve 01 No Manual adjustment by rotary knob. 29 Pressure reducing valve, 3 way Direct control 30 Solenoid Valve 01 No Manual adjustment by rotary knob. 31 Manual Shut-Off Valve, 2 Way; Piloted Check Valve; One-Way Flow Control Valve; 32 Set Of Push-Buttons, Set Of Three Relays, Electrical End Of Stroke (Right & Left) 33 Power Supply: 01 No. Input: 110 - 240 VAC - Output: 24 VDC, I = 5A Protection against short circuit and overload. Input switch LED display Supply cable included 4 mm terminals for snap connection cables. 34 4 Connection Dividers; 6 Connection Distributors On Manifold; Cross Distributor With Pressure Gauge 35 Set Of Connectors For Solenoids. 2 Gray + 1 Black mm terminals (1 red and 1 blue colour). 36 Set of electrical connectors As required with different colors and length and with 4 mm security terminals	25	Oil with special red	Specially coloured oil for using with transparent elements
27 Two-way flow control valve 01 No Two-way flow control valve, with two ports, needle. Manual adjustment by rotary knob.		colouring 01 No	Quantity required for portable hydraulic pump.
Manual adjustment by rotary knob. 28 3 way pressure relief valve with damping 29 Pressure reducing valve, 3 way Direct control 30 Solenoid Valve 31 Manual Shut-Off Valve, 2 Way; Piloted Check Valve; One-Way Flow Control Valve, 2 32 Set Of Push-Buttons, Set Of Three Relays, Electrical End Of Stroke (Right & Left) 33 Power Supply: 34 4 Connection Dividers; 6 Connection Distributors On Manifold; Cross Distributor With Pressure Gauge 35 Set Of Connectors For Solenoids. 2 Gray + 1 Black 36 Set of electrical connectors 37 Set of electrical connectors 38 A way pressure relief valve, direct control Mar adjustment by rotary knob. 39 On No Manual adjustment by rotary knob. 30 In No Manual adjustment by rotary knob. 31 Manual Sut-Galve, Manual Algustral phosp. 32 Set Of Push-Buton, Set Of No. each 33 No. each 34 In No. each 35 In No. each 36 In No. Input: 110 - 240 VAC 37 In No. each 38 In No. each 39 In No. each 30 In No. each 31 No. each 31 No. each 31 No. each 32 Set Of Push-Butons, Set Of No. each 33 Power Supply: 34 In No. each 35 In No. each 36 In No. each 37 In No. each 38 In No. each 39 In No. each 30 In No. each 30 In No. each 31 No. each 30 In No. each 31 No. each 31 No. each 32 In No. each 33 Power Supply: 34 In No. each 35 In No. each 36 In No. each 37 In No. each 38 In No. each 39 In No. each 30 In No. each	26	One-way restrictor	01 No. On a base plate with three NW4 plugs self-sealing 1/8"
with damping adjustment by rotary knob. 29 Pressure reducing valve, 3 way Direct control 30 Solenoid Valve 31 Manual Shut-Off Valve, 2 Way; Piloted Check Valve; One-Way Flow Control Valve; 32 Set Of Push-Buttons, Set Of Three Relays, Electrical End Of Stroke (Right & Left) 33 Power Supply: 30 Power Supply: 31 On No. Input: 110 - 240 VAC 32 Output: 24 VDC, I= 5A. 33 Protection against short circuit and overload. Input switch LED display. 34 Connection Dividers; 6 Connection Distributors On Manifold; Cross Distributor With Pressure Gauge 35 Set Of Connectors For Solenoids. 2 Gray + 1 Black 36 Set of electrical connectors 37 A required with different colors and length and with 4 mm security terminals	27	Two-way flow control valve	01 No Two-way flow control valve, with two ports, needle Manual adjustment by rotary knob.
29 Pressure reducing valve, 3 way Direct control 30 Solenoid Valve 01 No. each 4/2 Solenoid valve, spring return; 4/3 Solenoid with closed mid-position 31 Manual Shut-Off Valve, 2 Way; Piloted Check Valve; One-Way Flow Control Valve; 32 Set Of Push-Buttons, Set Of Three Relays, Electrical End Of Stroke (Right & Left) 33 Power Supply: 01 No. Input: 110 - 240 VAC - Output: 24 VDC, I= 5A Protection against short circuit and overload. Input switch LED display Supply cable included 4 mm terminals for snap connection cables. 34 4 Connection Dividers; 6 Connection Distributors On Manifold; Cross Distributor With Pressure Gauge 35 Set Of Connectors For Solenoids. 2 Gray + 1 Black 36 Set of electrical connectors O1 No. Connector (2 gray and 1 black colour) + LED + cable mm terminals (1 red and 1 blue colour). As required with different colors and length and with 4 mm security terminals	28	3 way pressure relief valve	01 No. Spool-type pressure relief valve, direct control Manual
way Direct control 30 Solenoid Valve 01 No. each 4/2 Solenoid valve, spring return; 4/3 Solenoid with closed mid-position 31 Manual Shut-Off Valve, 2 Way; Piloted Check Valve; One-Way Flow Control Valve; 32 Set Of Push-Buttons, Set Of Three Relays, Electrical End Of Stroke (Right & Left) 33 Power Supply: 01 No. Input: 110 - 240 VAC - Output: 24 VDC, I= 5A Protection against short circuit and overload. Input switch LED display Supply cable included 4 mm terminals for snap connection cables. 34 4 Connection Dividers; 6 Connection Distributors On Manifold; Cross Distributor With Pressure Gauge 35 Set Of Connectors For Solenoids. 2 Gray + 1 Black 36 Set of electrical connectors O1 No. each 01 No. each 01 No. each 01 No. Input: 110 - 240 VAC - Output: 24 VDC, I= 5A Protection against short circuit and overload. Input switch LED display Supply cable included 4 mm terminals for snap connection cables. 01 No Distributor with 3 connections with pressure gauge 0 to 16 bars. 01 No. Connector (2 gray and 1 black colour) + LED + cable mm terminals (1 red and 1 blue colour). As required with different colors and length and with 4 mm security terminals		with damping	adjustment by rotary knob.
30 Solenoid Valve 31 Manual Shut-Off Valve, 2 Way; Piloted Check Valve; One-Way Flow Control Valve; 32 Set Of Push-Buttons, Set Of Three Relays, Electrical End Of Stroke (Right & Left) 33 Power Supply: 34 Connection Dividers; 6 Connection Distributors On Manifold; Cross Distributor With Pressure Gauge 35 Set Of Connectors For Solenoids 2 Gray + 1 Black 36 Set of electrical connectors 31 Manual Shut-Off Valve, 2 Way; Piloted Check Valve; On No. each O1 No. output: 24 VAC Output: 24 VDC, I= 5A. Protection against short circuit and overload. Input switch LED display. Supply cable included. O1 No Distributor with 3 connections with pressure gauge O1 No Distributor with 3 connections with pressure gauge O1 No. Onnector (2 gray and 1 black colour) + LED + cable mm terminals (1 red and 1 blue colour). O1 No. Connector (2 gray and 1 black colour) As required with different colors and length and with 4 mm security terminals	29	Pressure reducing valve, 3	01 No Manual adjustment by rotary knob.
with closed mid-position		way Direct control	
Way; Piloted Check Valve; One-Way Flow Control Valve; 32 Set Of Push-Buttons, Set Of Three Relays, Electrical End Of Stroke (Right & Left) 33 Power Supply: 01 No. Input: 110 - 240 VAC - Output: 24 VDC, I= 5A Protection against short circuit and overload. Input switch LED display Supply cable included 4 mm terminals for snap connection cables. 34 4 Connection Dividers; 6 Connection Distributors On Manifold; Cross Distributor With Pressure Gauge 35 Set Of Connectors For Solenoids. 2 Gray + 1 Black May; Piloted Check Valve; O1 No. each O1 No. Input: 110 - 240 VAC - Output: 24 VDC, I= 5A Protection against short circuit and overload. Input switch LED display Supply cable included 4 mm terminals for snap connection cables. 0 to 16 bars. O1 No Distributor with 3 connections with pressure gauge 0 to 16 bars. O1 No. Connector (2 gray and 1 black colour) + LED + cable mm terminals (1 red and 1 blue colour). 36 Set of electrical connectors As required with different colors and length and with 4 mm security terminals	30	Solenoid Valve	01 No. each $4/2$ Solenoid valve, spring return; $4/3$ Solenoid valve with closed mid-position
One-Way Flow Control Valve; Set Of Push-Buttons, Set Of Three Relays, Electrical End Of Stroke (Right & Left) 33 Power Supply: O1 No. Input: 110 - 240 VAC - Output: 24 VDC, I = 5A Protection against short circuit and overload. Input switch LED display Supply cable included 4 mm terminals for snap connection cables. 34 4 Connection Dividers; 6 Connection Distributors On Manifold; Cross Distributor With Pressure Gauge 35 Set Of Connectors For Solenoids. 2 Gray + 1 Black Mm terminals (1 red and 1 blue colour). 36 Set of electrical connectors As required with different colors and length and with 4 mm security terminals	31	Manual Shut-Off Valve, 2	01 No. each
32 Set Of Push-Buttons, Set Of Three Relays, Electrical End Of Stroke (Right & Left) 33 Power Supply: 01 No. Input: 110 - 240 VAC - Output: 24 VDC, I = 5A Protection against short circuit and overload. Input switch LED display Supply cable included 4 mm terminals for snap connection cables. 34 4 Connection Dividers; 6 Connection Distributors On Manifold; Cross Distributor With Pressure Gauge 35 Set Of Connectors For Solenoids. 2 Gray + 1 Black Mm terminals (1 red and 1 blue colour). 36 Set of electrical connectors As required with different colors and length and with 4 mm security terminals		Way; Piloted Check Valve;	
Of Three Relays, Electrical End Of Stroke (Right & Left) 33 Power Supply: O1 No. Input: 110 - 240 VAC - Output: 24 VDC, I= 5A Protection against short circuit and overload. Input switch LED display Supply cable included 4 mm terminals for snap connection cables. 34 4 Connection Dividers; 6 Connection Distributors On Manifold; Cross Distributor With Pressure Gauge 35 Set Of Connectors For Solenoids. 2 Gray + 1 Black 36 Set of electrical connectors As required with different colors and length and with 4 mm security terminals		One-Way Flow Control Valve;	
End Of Stroke (Right & Left) 33 Power Supply: 01 No. Input: 110 - 240 VAC - Output: 24 VDC, I= 5A Protection against short circuit and overload. Input switch LED display Supply cable included 4 mm terminals for snap connection cables. 34 4 Connection Dividers; 6 Connection Distributors On Manifold; Cross Distributor With Pressure Gauge 35 Set Of Connectors For Solenoids. 2 Gray + 1 Black 36 Set of electrical connectors O1 No. Connector (2 gray and 1 black colour) + LED + cable mm terminals (1 red and 1 blue colour). As required with different colors and length and with 4 mm security terminals	32	Set Of Push-Buttons, Set	01 No. each
O1 No. Input: 110 - 240 VAC - Output: 24 VDC, I = 5A Protection against short circuit and overload. Input switch LED display Supply cable included 4 mm terminals for snap connection cables. 34 4 Connection Dividers; 6 Connection Distributors On Manifold; Cross Distributor With Pressure Gauge 35 Set Of Connectors For Solenoids. 2 Gray + 1 Black 36 Set of electrical connectors O1 No. Connector (2 gray and 1 black colour) + LED + cable mm terminals (1 red and 1 blue colour). As required with different colors and length and with 4 mm security terminals		Of Three Relays, Electrical	
- Output: 24 VDC, I= 5A Protection against short circuit and overload. Input switch LED display Supply cable included 4 mm terminals for snap connection cables. 34 4 Connection Dividers; 6 Connection Distributors On Manifold; Cross Distributor With Pressure Gauge 35 Set Of Connectors For Solenoids. 2 Gray + 1 Black O1 No. Connector (2 gray and 1 black colour) + LED + cable mm terminals (1 red and 1 blue colour). As required with different colors and length and with 4 mm security terminals		End Of Stroke (Right & Left)	
- Protection against short circuit and overload. Input switch LED display Supply cable included 4 mm terminals for snap connection cables. 34 4 Connection Dividers; 6 Connection Distributors On Manifold; Cross Distributor With Pressure Gauge 35 Set Of Connectors For Solenoids. 2 Gray + 1 Black 36 Set of electrical connectors As required with different colors and length and with 4 mm security terminals	33	Power Supply:	01 No. Input: 110 - 240 VAC
LED display Supply cable included 4 mm terminals for snap connection cables. 34 4 Connection Dividers; 6 Connection Distributors On Manifold; Cross Distributor With Pressure Gauge 35 Set Of Connectors For Solenoids. 2 Gray + 1 Black Manifold: O1 No Distributor with 3 connections with pressure gauge O to 16 bars. O1 No. Connector (2 gray and 1 black colour) + LED + cable mm terminals (1 red and 1 blue colour). As required with different colors and length and with 4 mm security terminals			- Output: 24 VDC, I= 5A.
- 4 mm terminals for snap connection cables. 34 4 Connection Dividers; 6 Connection Distributors On Manifold; Cross Distributor With Pressure Gauge 35 Set Of Connectors For Solenoids. 2 Gray + 1 Black 36 Set of electrical connectors - 4 mm terminals for snap connection cables. 01 No Distributor with 3 connections with pressure gauge 0 to 16 bars. O1 No. Connector (2 gray and 1 black colour) + LED + cable mm terminals (1 red and 1 blue colour). As required with different colors and length and with 4 mm security terminals			- Protection against short circuit and overload. Input switch and LED display.
34 4 Connection Dividers; 6 Connection Distributors On Manifold; Cross Distributor With Pressure Gauge 35 Set Of Connectors For Solenoids. 2 Gray + 1 Black 36 Set of electrical connectors O1 No Distributor with 3 connections with pressure gauge O to 16 bars. O1 No Distributor with 3 connections with pressure gauge O to 16 bars. O1 No. Connector (2 gray and 1 black colour) + LED + cable mm terminals (1 red and 1 blue colour). As required with different colors and length and with 4 mm security terminals			- Supply cable included.
Connection Distributors On Manifold; Cross Distributor With Pressure Gauge 35 Set Of Connectors For Solenoids. 2 Gray + 1 Black Set of electrical connectors As required with different colors and length and with 4 mm security terminals			- 4 mm terminals for snap connection cables.
On Manifold; Cross Distributor With Pressure Gauge 35 Set Of Connectors For Solenoids. 2 Gray + 1 Black mm terminals (1 red and 1 blue colour). As required with different colors and length and with 4 mm security terminals	34	4 Connection Dividers; 6	01 No Distributor with 3 connections with pressure gauge from
Distributor With Pressure Gauge 35 Set Of Connectors For Solenoids. 2 Gray + 1 Black mm terminals (1 red and 1 blue colour). 36 Set of electrical connectors As required with different colors and length and with 4 mm security terminals		Connection Distributors	0 to 16 bars.
Gauge 35 Set Of Connectors For Solenoids. 2 Gray + 1 Black mm terminals (1 red and 1 blue colour). 36 Set of electrical connectors As required with different colors and length and with 4 mm security terminals		On Manifold; Cross	
35 Set Of Connectors For Solenoids. 2 Gray + 1 Black mm terminals (1 red and 1 blue colour). 36 Set of electrical connectors As required with different colors and length and with 4 mm security terminals		Distributor With Pressure	
Solenoids. 2 Gray + 1 Black mm terminals (1 red and 1 blue colour). 36 Set of electrical connectors As required with different colors and length and with 4 mm security terminals		Gauge	
36 Set of electrical connectors	35	Set Of Connectors For	O1 N0. Connector (2 gray and 1 black colour) + LED + cable + 4
security terminals		Solenoids. 2 Gray + 1 Black	mm terminals (1 red and 1 blue colour).
27 Warranty I	36	Set of electrical connectors	
37 Walfality: 3 years	37	Warranty :	3 years

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