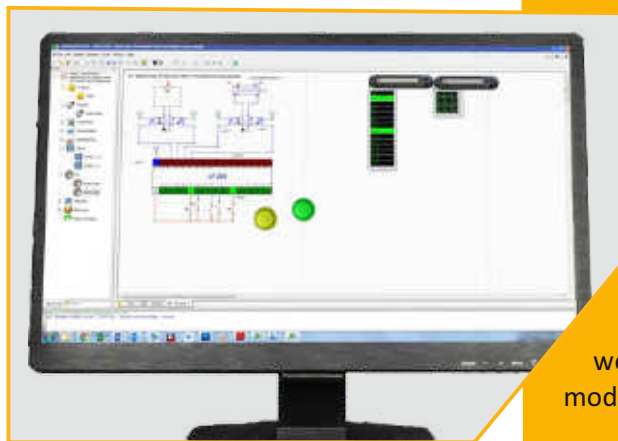
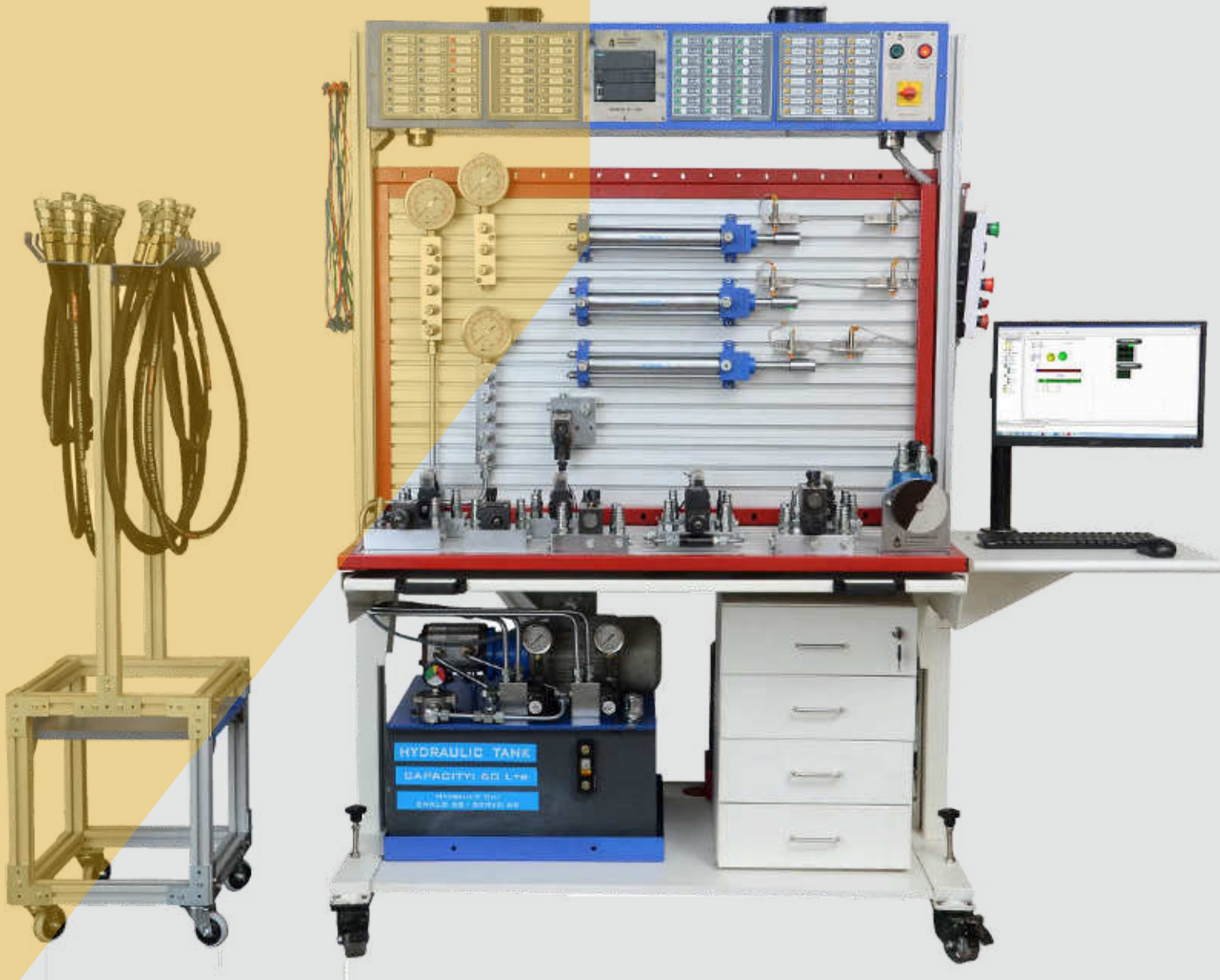


Hydraulic Training

HYTECH

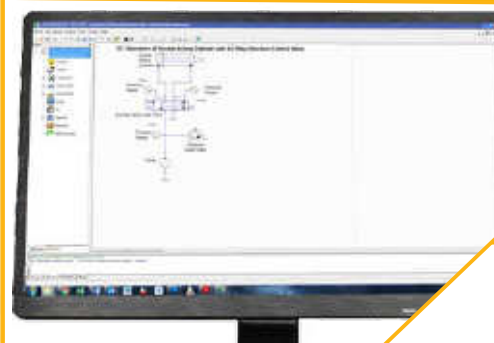
Since 1992

www.hytechautomation.in



Hytech Electrohydraulic Training kits are computer controlled with PLC. Entire operation can be simulated as well as dynamically operated directly from Hydraulic Circuit Design and Simulation software. Advance Electrohydraulic training kit covers Basic as well as PLC based operation modules of Hydraulic Training.

HYDRAULIC TRAINING KIT - BASIC



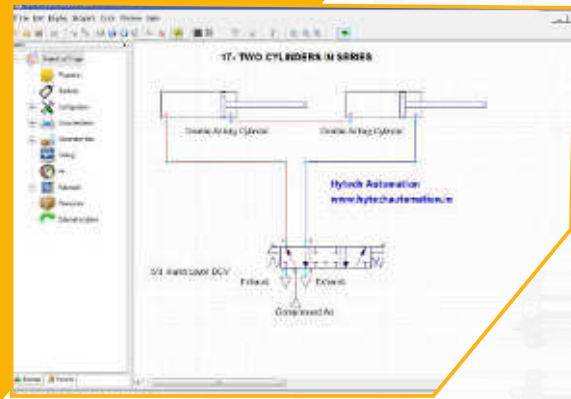
Hytech Basic Hydraulic training kit is a dual faced training kit made of heavy duty aluminum extrusions. Basic hydraulic training kit covers almost all of the commonly used conventional hydraulic valves. Hytech Training kit comes with hydraulic circuit design and simulation software. User can design and simulate a basic hydraulic circuit on software and execute the same on hardware training kit.

PROPORTIONAL VALVE TRAINING KIT



'Hytech Proportional Valve Training Kit' is designed to provide hands on experience on Proportional DCV as well as Proportional PRV. Proportional training kit can be mounted on the back of Advance Hydraulic training kit or can be placed separately on an individual platform. It is equipped with HMI as well as control card for efficient operation. Complete Proportional training kit is hard piped to avoid dust contamination. Industrial high pressure filter is provided for better efficiency. All necessary accessories such as timers and counters are provided to enable efficient data collection.

CIRCUIT SIMULATION AND AUTOMATION MODULES

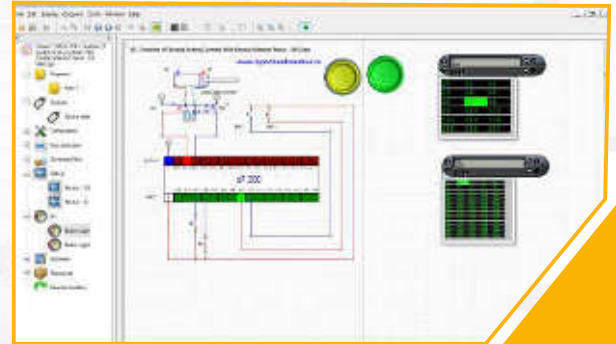


BASIC HYDRAULIC CIRCUIT DESIGN AND SIMULATION

This is a central control station from where operator can control entire system in individual mode as well as in integrated mode. Workstation with dual monitors is provided with ergonomic design. Hardware operation panel is also mounted on the CCU for effective operation control. Teach pendants for Industrial robot, handheld operation unit for ASRS and Gantry are also connected to CCU with RJ 45 connection ports. Central PLC which communicates with all machines is also mounted in CCU control panel.

ADVANCE ELECTROHYDRAULIC (WITH PLC) CIRCUIT DESIGN AND SIMULATION

IRAI Automgen is supplied along with Hytech Advance ElectroHydraulic Training Kits. User can design a PLC ladder diagram along with advance Hydraulic circuit and simulate the same on the software. The software is capable of uploading a ladder diagram in PLC and dynamically operate the entire training kit in real time with simulation. No other software is required for PLC ladder updation. Any circuit (100+ circuits) that can be designed and executed on Hytech Advance ElectroHydraulic training kits can be designed as well as simulated on IRAI Automgen. The software is capable of generating executable circuit simulations which can be simulated on a system without active software license.



ADVANCE HYDRAULICS (ELECTROHYDRAULIC) RELAY BASED OPERATION MODULE



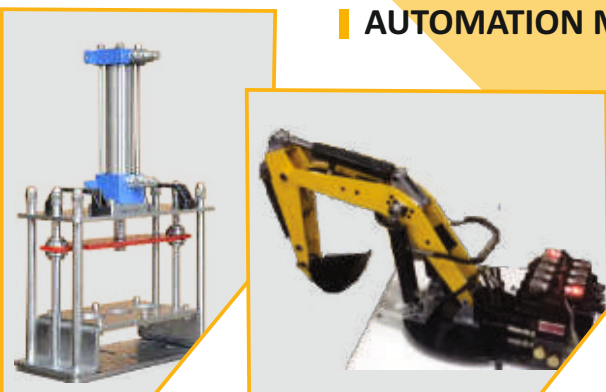
Relay based module consists of Relay Unit (4 CO, 3Qty) and Electrical Push button based power supply module. This module is used for ElectroHydraulic training (Basic) in integration with Advance Hydraulics (ElectroHydraulic) Module 1. This module is equipped with patch cord based Banana sockets with which electroHydraulic training experiments can be performed.

ADVANCE HYDRAULICS (ELECTROHYDRAULIC) PLC BASED OPERATION MODULE

This Advance ElectroHydraulic module consists of PLC, Field Input and Output modules, PLC input and output modules and Workstation to carry out computer controlled ElectroHydraulic training experiments. Entire Hydraulic circuit can be designed, simulated as well as operated directly from IRAI-Automgen software with dynamic real-time simulation.



AUTOMATION MODULES



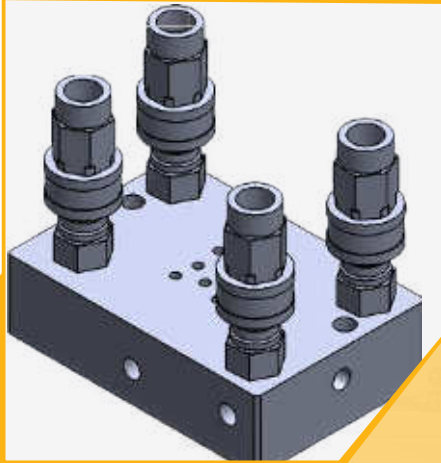
Hytech Hydraulic and ElectroHydraulic training kits have an optional automation modules providing hands on experience on industrial Hydraulics applications. 'Hydraulic Press' module can be integrated with Basic as well as Advance training kits which can be operated with basic conventional valves as well as Solenoid valves in collaboration with PLC.

'PLC Operated Excavator' module can be integrated with Advance Electrohydraulic training kits.

HYDRAULIC VALVE PLATES, POWERPACK AND HOSE TROLLEY

Hydraulic Valve Plates

Hytech Hydraulic training kits are equipped with indigenously designed hydraulic valve plates for CETOP3 mountings. The advanced version is equipped with valve plates having parallel A and B ports for dynamic pressure readings. Each plate is laser engraved with port connection such as P, T, A and B. Each plate is connected with quick release coupling of 3/8 inch. Each plate as well as quick release coupling is tested at 160 Bar pressure.



Hydraulic Power pack

Hytech hydraulic training kits are equipped with hydraulic power packs which are indigenously designed as well as manufactured by us. Each power pack is tested for pressure generation up to 160 Bar. Pressure relief valve (Lockable) is mounted on the power pack to lock the set pressure to avoid any accident. Electric motor in the power pack is protected with MPCB as well as overload relay. Hydraulic power pack is hard piped to pressure and tank manifolds on each face of the hydraulic training kit.



Hydraulic Proportional Valve Training Kit – Piping

Entire proportional valve training kit is hard piped to maintain necessary cleanliness and maintain the dust sensitive proportional valves. High pressure filter is provided in the pressure line. There are no hose connections required to operate proportional valve training kit. Pressure gauges are connected in each pressure line as well as return line of each valve.



Hose Trolley

Advance electrohydraulic training kits are provided with mobile hose trolley with an arrangement to drain spilled oil. Basic hydraulic training kits are equipped with hose stand mounted on the training kit.



HYDRAULIC TRAINING KIT - TRAINING MODULES



Sr No	Description	Qty	Make
1	Trainer Kit Base and Structure (Basic)		
	Basic Hydraulic Trainer Base with Aluminum extrusion based work surface (Double Sided) of minimum dimensions: Horizontal work area on front face : 1200mm x 360mm Horizontal work area on back face : 1200mm x 360mm Vertical work area on front face : 1200mm x 720mm Vertical work area on back face : 1200mm x 720mm MS based structure with castor wheels and load bearing capacity of 380 KG	1	HYTECH
2	Trainer Kit Base and Structure (Advance)		
	Advance Hydraulic Trainer Base with Aluminum extrusion based work surface (Double Sided) of minimum dimensions: Horizontal work area on front face : 1200mm x 450mm Horizontal work area on back face : 1200mm x 450mm Vertical work area on front face : 1200mm x 720mm Vertical work area on back face : 1200mm x 720mm MS based structure with castor wheels and load bearing capacity of 380 KG	1	HYTECH

Sr No	Description	Qty	Make
3	Trainer Kit Base and Structure (Proportional Kit)		
	Proportional Hydraulic Trainer Base with Aluminum extrusion based work surface of minimum dimensions: Horizontal work area : 1200mm x 720mm MS based structure with castor wheels and load bearing capacity of 380 KG	1	HYTECH
4	Hydraulic Power Pack Module		
4.1	Hydraulic tank with 60 Litre capacity, Oil cleanliness: Level 8	1	HYTECH
4.2	Three Phase flange mounted electric motor 2 HP -1500 rpm	1	Siemens / CG
4.3	Gear Pump (Flow Rate: 8 LPM, Max Pressure: 70 Bar)	1	Yuken / Rexroth
4.4	Pressure Gauge 0 to 100 Bar, Glycerin filled, 2 inch	2	Baumer / WIKA
4.5	Pressure Relief Valve (Subplate Mounted) with Locking Arrangement	1	Yuken / Rexroth
4.6	Suction Line Filter	1	Reputed Make
4.7	Return Line Filter	1	Reputed Make
4.8	Pressure Line Manifold with 4 Ports (Hard piped with powerpack and mounted on the front work surface)	1	HYTECH
4.9	Pressure Line Manifold with 2 Ports (Hard piped with powerpack and mounted on the rear work surface)	1	HYTECH

Sr No	Description	Qty	Make
4.10	Return Line Manifold with 4 Ports (Hard piped with powerpack and mounted on the front work surface)	1	HYTECH
4.11	Return Line Manifold with 2 Ports (Hard piped with powerpack and mounted on the rear work surface)	1	HYTECH
4.12	Test Line Manifold with 2 Ports (Hard piped with powerpack and mounted on the front work surface)	1	HYTECH
4.13	Pressure Gauge 0 to 100 Bar, Glycerin filled, 4 inch	1	Baumer / WIKA
5	Basic Hydraulic Module 1		
5.1	Pressure Relief Valve (Direct operated relief valve)	2	Yuken / Rexroth
5.2	Flow Control Valve (Non Pressure Compensated) with Check Valve .	2	Yuken / Rexroth
5.3	Flow Control Valve (Pressure Compensated) with Check Valve	1	Yuken / Rexroth
5.4	Four way Three position manually operated direction control valve - Tandem Center	2	Yuken / Rexroth
5.5	Four way Three position manually operated direction control valve - Closed Center	1	Yuken / Rexroth
5.6	Single Acting Cylinder (Stroke: 100mm, Dia: 25mm, Test Pressure: 70 Bar)	1	Yuken / Rexroth
5.7	Double Acting Cylinder (Stroke: 200 mm minimum Test Pressure 130 Bar)	2	Yuken / Rexroth
5.8	Proximity Sensor Assmly for Hydraulic Cylinder	6	NA
6	Basic Hydraulic Module 2		
6.1	Hydraulic Motor Bidirectional .	1	Yuken / Eaton
6.2	Needle Valve	2	Yuken / Polyhdron
6.3	Pressure Sequence Valve	1	Yuken / Rexroth
6.4	Pressure Reducing Valve	1	Yuken / Rexroth
6.5	Four way Two position manually operated direction control valve	1	Yuken / Rexroth
6.6	Check Valve Direct Operated	1	Yuken / Polyhdron
6.7	Single Pilot Operated Check Valve	1	Yuken / Rexroth
7	Circuit Design and Simulation Software		
7.1	Automgen (IRAI France) - Hydraulic Circuit design and simulation software (Perpetual)	1	IRAI - France
8	Manuals for Basic Hydraulics		
8.1	Operation Manual (Basic Hydraulics)	1	NA
8.2	Experimentation Manual (Basic Hydraulics)	1	NA
8.3	Hydraulics Text Book (Basic Hydraulics)	1	NA
9	Advance Hydraulics (Electrohydraulic) Module 1		
9.1	Pressure Switch	1	Yuken / Rexroth
9.2	Four Way Three Position Double solenoid operated direction control valve	3	Yuken / Rexroth
9.3	Four Way Two Position Single solenoid operated direction control valve	1	Yuken / Rexroth
10	Advance Hydraulics (Electrohydraulic) Relay based operation module		
10.1	2mm Patch cord connector set	1 set	NA
10.2	Electrical Push button based power supply module	1	NA
10.3	Relay unit module (4 CO, 3Qty)	1	NA

Sr No	Description	Qty	Make
11	Advance Hydraulics (Electrohydraulic) PLC Based operation module		
11.1	PLC with 24 inputs and 16 outpts	1	Siemens
11.2	Power supply and control panel for PLC	1	Reputed Make
11.3	Control panel box with mounting for Advance Electrohydraulic Training Kit (1200 x 400 x 300mm)	1	NA
11.4	PLC Input module with input override switches (24 inputs)	1	HYTECH
11.5	Field input module (24 inputs)	1	HYTECH
11.6	PLC output module (24 outputs)	1	HYTECH
11.7	Field output module (24 outputs)	1	HYTECH
11.8	Remote operation unit with 2 selector switches, 2 push buttons and 2 mushroom head switches	1	NA
11.9	2mm Patch cord connector set	1 set	NA
12	Workstation with Simulation software and licensed PLC software		
12.1	Intel Mother board Computer with 21 inch LED Monitor (Acer / Dell) and bluetooth keyboard and mouse	1	ACER / DELL
12.2	IRAI Automgen software license (Perpetual) for hydraulic / electrohydraulic circuit design and simulation	1	IRAI - France
12.3	Necessary interface for direct operation of training kit from simulation software IRAI Automgen (Dynamic realtime simulation and operation)	1	HYTECH
12.4	Workstation operation unit with mounting facility	1	NA
13	Proportional Valve Training Kit Module		
13.1	7 inch colour HMI	1	Siemens
13.2	High Pressure Filter	1	Reputed Make
13.4	Pressure Relief Valve (Subplate Mounted) with Locking Arrangement	1	Yuken / Rexroth
13.5	Pressure Line Manifold with 4 Ports (Hard piped with powerpack)	1	HYTECH
13.6	Return Line Manifold with 2 Ports (Hard piped with powerpack)	1	HYTECH
13.7	Test Line Manifold with 2 Ports (Hard piped with powerpack)	1	HYTECH
13.8	Pressure Gauge 0 to 100 Bar, Glycerin filled, 4 inch	4	Baumer / WIKA
13.9	Complete Piping arrangement	1 Set	HYTECH
13.10	Hydraulic Cylinder with minimum 150mm stroke	1	HYTECH
13.11	Proximity Sensor Assmly for Hydraulic Cylinder	6	NA
14	Proportional DCV Module		
14.1	Proportional Direction Control Valve	1	Yuken / Argo Hytos
14.2	Control card for Proportional Direction Control Valve	1	Yuken / Argo Hytos
14.3	Four way Three position manually operated direction control valve	1	Yuken / Rexroth
15	Proportional PRV Module		
15.1	Proportional Pressure Reducing Valve	1	Yuken / Argo Hytos
15.2	Control card for Proportional Pressure Reducing Valve	1	Yuken / Argo Hytos
15.3	Four way Three position manually operated direction control valve	1	Yuken / Rexroth