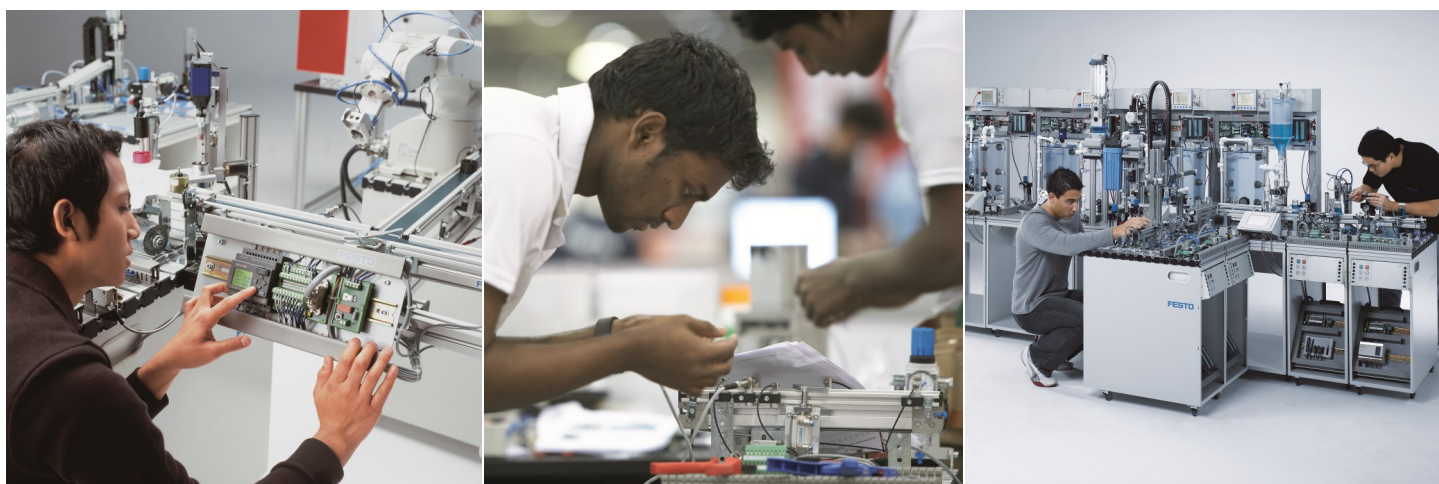


Training Calendar 2017

FESTO



Go from - **Discovery**

. . . . to **Enlightenment**

. . . . to on-the-job **Performance**

Make a small but significant investment in the future of your organization

Learn the fundamentals of Automation Technology from the pioneers. Acquire the core competencies in your chosen subject and use them to your advantage at your workplace, regardless of the make of components you are currently using. Contact us to know how Festo training can make a difference to you and your company. Contact details on page 3.

Highlights of Festo training courses

- Generic training content — Training is 100% useful, even if you are not a Festo user.
- Small batch sizes — Better personal attention and hands-on practical exposure for all participants.
- Adequate practical exercises — Better grasp and retention. New design ideas to implement at your workplace.

How does Festo training help you

- Know how various components are connected together — Ensure your machines work correctly after reassembly.
- Learn safe methods and practices — Avoid accidents, increase productivity.
- Learn about new components with built-in safety features — Make your machines safer, win customer confidence.
- Use a scientific approach to problem solving & maintenance — Avoid experimentation and likely machine damage.
- Get to the problem in less time — Reduce down time of machinery.
- Useful in documentation of intensive processes — Total Productivity Maintenance, ISO certification.

How to apply :

Write to us specifying the course name, dates and names of participants. Seat confirmation will be given after receipt of payment.

Other services available from Festo

- Customized training courses for specific needs or audiences (Managers, supervisors, maintenance personnel, workers).
- On site lectures on the topic of your choice.
- Formulation of syllabus for courses in automation.
- Supply of training kits, training media, training aids and software for a complete training experience.
- Consultancy for setting up training centers for corporate, training institutes, engineering colleges.
- Design of training room layout with 3D walk through view.

Training Courses & Course Content

P111 - Basic Pneumatics

[3 Days]

Course Fee : Rs.6500/- plus 18.0% GST
(light refreshment, lunch & course material included)

Eligibility : General technical ability.

Topics covered :

- Fundamentals of compressed air supply : Production, Preparation and distribution.
- Symbolic representation of devices as per ISO 1219 standards.
- Actuators : Cylinders construction, working and its applications.
- Valves : Direction control valves identification, construction, design features and operation of other control elements used in circuits.
- Position control : (Limit switches and sensors), Speed control : (Flow control valves), Logic control : (AND/OR valves), Pressure control : (Adjustable pressure sequence valve), Time-dependent control : (NO/NC timer) and counter application.

Outcomes :

- Develop the ability to select correct components for various application.
- Read, design, assemble and test basic pneumatic circuits.
- Develop troubleshooting skills to identify component malfunctioning and maintain pneumatic in basic control system.

EP211 - Basic Electro-Pneumatics

[3 Days]

Course Fee : Rs.7500/- plus 18.0% GST
(light refreshment, lunch & course material included)

Eligibility : Should have completed P111.

Topics covered :

- Fundamentals in electro pneumatic control technology - control chain.
- Electric symbols used for contacts, switches, relays, timer and counter.
- Construction, working and use of solenoid operated pneumatic Direction control valves.
- Construction and working principle of sensors - magnetic, Inductive, capacitive, optical and pressure sensors.
- Interpret graphical symbols used in electrical circuits and on electro-pneumatic components.

Outcomes :

- Awareness on the role of pneumatics and electro-pneumatics in automation technology.
- Maintain and troubleshoot electro-pneumatic components used in basic control systems.
- Design, assemble and test basic electro-pneumatic circuits.

H511 - Basic Hydraulics

[3 Days]

Course Fee : Rs.9500/- plus 18.0% GST
(light refreshment, lunch & course material included)

Eligibility : General technical ability.

Topics covered :

- Working media selection criteria.
- Basic fundamentals involved, hydraulic system structure.
- Construction, design feature, working principle of - Pumps, Pressure control valves, Direction control valve, check valve, Flow control valve, accumulator and cylinders.
- IS 1219 representation of symbols used in identifying, reading and interpreting basic hydraulic circuit components.
- Simple application circuits and calculations on pressure, flow, force, speed and power.

Outcomes :

- Design, assemble and test basic hydraulic circuits.
- Identify graphical symbols and develop troubleshooting abilities of hydraulic circuits.
- Set up systems in accordance with circuit diagram basic hydraulic controls.

P122 - Advanced Pneumatics

[3 Days]

Course Fee : Rs.6500/- plus 18.0% GST
(light refreshment, lunch & course material included)

Eligibility : Should have completed P111.

Topics covered :

- Basic concepts in sequential multi cylinder control.
- Signal overlap – methods of overcoming signal overlap in sequential control.
- Plotting motion diagram, control diagram to identify signal overlap.
- Cascade principle, sequential multi cylinder cascade control and cascade control by grouping method.
- Stepper sequencer principle, sequential multi cylinder control by grouping method and using expansion module.
- Vacuum generation and its accessories for control application.

Outcomes :

- Awareness on the application of advanced pneumatics in automation technology.
- Read, develop and troubleshoot sequential multi cylinder pneumatic circuits.
- Identify signal flow and managing control signals.
- Use vacuum in control application.

EPA311 - Electro-Pneumatic Automation with PLC

[5 Days]

Course Fee : Rs.12000/- plus 18.0% GST
(light refreshment, lunch & course material included)

Eligibility : Should have completed P111.

Topics covered :

- Fundamentals in electro pneumatic control technology - control chain, electric symbols used for contacts, switches, relays, timer and counter.
- Construction, working and use of solenoid operated pneumatic Direction control valves.
- Construction and working principle of sensors - magnetic, inductive, capacitive, optical and pressure sensors.
- Construction and working of PLC unit and introduction to programming environment.
- Development of PLC logic control using electro pneumatic control elements and communicating PC with PLC for commissioning.
- Identify and describe the type of sensor devices that can connect to a PLC, based on its specifications.

Outcomes :

- Use of electro-pneumatics, sensors and PLC's in control system.
- Design, maintain and troubleshoot PLC controlled electro-pneumatic control systems.

EH611 - Basic Electro-Hydraulics

[3 Days]

Course Fee : Rs.11000/- plus 18.0% GST
(light refreshment, lunch & course material included)

Eligibility : Should have completed H511.

Topics covered :

- Fundamentals in electro hydraulic control technology - control chain, electric symbols used for contacts, switches, relays, timer and counter.
- Construction, working and use of solenoid operated hydraulic Direction Control valves.
- Construction and working principle of sensors— magnetic, inductive, capacitive, optical and pressure sensors.
- Interpret graphical symbols of electrical and electro-hydraulic components.

Outcomes :

- Awareness on the use of hydraulic and electro-hydraulic for automation task.
- Develop troubleshooting abilities on electro-hydraulic components used in basic control systems.
- Read, design, assemble and test basic electro-hydraulic circuits.
- Read electric control circuits and design simple electro hydraulic control systems.

Note : Special 25% discount on course fee for students

HPA 711- Electro-Hydraulic Automation with PLC [5 Days]

Course Fee : Rs.14500/- plus 18.0% GST
(light refreshment, lunch & course material included)

Eligibility : Should have completed H511.

Topics covered :

- Fundamentals in electro hydraulic control technology - control chain, electric symbols used for contacts, switches, relays, timer and counter.
- Construction, working and use of solenoid operated hydraulic Direction control valves.
- Construction and working principle of sensors— magnetic, inductive, capacitive, optical and pressure sensors.
- Construction, working of PLC unit and introduction to programming environment.
- Development of PLC logic control using electro hydraulic control elements and communicating with PC and PLC for commissioning.
- Identify and describe the type's of sensor devices that can connect to a PLC, based on its specifications.

Outcomes :

- Awareness in devising electro-hydraulic controls using sensors and PLCs for automation task.
- Design, maintain and troubleshoot PLC controlled electro-hydraulic control systems.

M711 - Mechatronics for Factory Automation [5 Days]

Course Fee : Rs.12000/- plus 18.0% GST
(light refreshment, lunch & course material included)

Eligibility : Should have completed EPA311.

Topics covered :

- Install, replace and commission pneumatic, electro-pneumatic, sensoric, electrical and PLC hardware components of a modular production system (MPS station).
- Identification, interpreting technical specification and working principle of Modular production system (MPS) components.
- Planning, commissioning of – MPS Distribution / MPS Testing / MPS Processing / MPS Handling station.
- Developing and downloading PLC program for MPS Distribution / MPS Testing / MPS Processing / MPS Handling station and commission a PLC control system.
- Assemble, test and troubleshoot basic factory automation systems of a MPS station (pneumatic, electrical and software).

Outcomes :

- Commission and test mechatronic system.
- Connect pneumatic and electric components according to PLC control logic.
- Find and eliminate fault and restore them to documented status.

P121 - Maintenance of Pneumatic Systems [3 Days]

Course Fee : Rs.6500/- plus 18.0% GST
(light refreshment, lunch & course material included)

Eligibility : Should have completed P111.

Topics covered :

- Production systems and dependence on maintenance, various maintenance strategies, performance indicator for maintenance department.
- Systematic approach to troubleshooting pneumatic control systems, design and working of control elements.
- Identify possible causes of component failure in pneumatic systems, describe their symptoms and recommend repair.
- Practical example for servicing typical pneumatic components - cylinder, valves and service units.

Outcomes :

- Awareness on various maintenance strategies and performance indicators for maintenance department.
- Maintain and troubleshoot pneumatic controls and control elements used in pneumatic.

PAP112 - Proficiency in Pneumatics [5 Days]

Course Fee : Rs.12000/- plus 18.0% GST
(light refreshment, lunch & course material included)

Eligibility : General technical ability.

Topics covered :

- Cylinders and valves construction & its working.
- Symbolic representation of devices as per ISO 1219 standards.
- Controls : Position control, Speed control, Logic control, Pressure control, Time-dependent control and counter application.
- Compressed air : Production, Preparation and Distribution
- Basic concepts in sequential multi cylinder control.
- Signal overlap – methods of overcoming signal overlap in a control.
- Plotting motion diagram, control diagram to identify signal overlap.
- Cascade and Quick Stepper principle used in sequential control.

Outcomes :

- Develop ability to select the correct components for basic and advanced pneumatic sequential circuits.
- Read, design and troubleshoot pneumatic sequential controls.

Note : Special 25% discount on course fee for students

Our Training Centers in India**Ahmedabad**

Festo India Pvt. Ltd.
33, Sardar Patel Nagar,
Nr. Hotel Nest, St. Xavier's College
Corner, Off. C.G. Road, Navrangpura,
Ahmedabad - 380006
Toll free nos. : 1800 425 0036
1800 121 0036
Email : festo_didactic@festo.com
Timings : 9:00 AM to 5:30 PM

Bangalore

Festo India Pvt. Ltd.
237 B, Hosur Road,
Bommasandra Industrial Area,
Bangalore - 560 099
Toll free nos. : 1800 425 0036
1800 121 0036
Fax : 91-80-27832058
Email : festo_didactic@festo.com
Timings : 9:00 AM to 5:30 PM

Chennai

Festo India Pvt. Ltd.
Pappathiammal Complex,
39, Pantheon Road,
Egmore, Chennai - 600 008
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1800 121 0036
Email : festo_didactic@festo.com
Timings : 9:00 AM to 5:30 PM

Noida

Festo India Pvt. Ltd.
A-2, PHASE-II,
Noida -201305
Toll free nos. : 1800 425 0036
1800 121 0036
Email : festo_didactic@festo.com
Timings : 9:00 AM to 5:30 PM

Mumbai

Festo India Pvt. Ltd.
502, "Raheja Point - I"
Vakola, Santacruz (East),
Mumbai - 400 055.
Toll free nos. : 1800 425 0036
1800 121 0036
Email : festo_didactic@festo.com
Timings : 9:00 AM to 5:30 PM

Pune

Festo India Pvt. Ltd.
Plot No. T-130, Bhosari,
Pune - 411 026.
Toll free nos. : 1800 425 0036
1800 121 0036
Email : festo_didactic@festo.com
Timings : 9:00 AM to 5:30 PM

Registration can be made by sending your

cheques/DD, made in favour of

"Festo India Pvt. Ltd." payable at the

location where the course is opted for.

Training Schedule 2017

Seminar Code	Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
P111	Ahmedabad	04-06	06-08	06-08	05-07	08-10	05-07	03-05	09-11	04-06	04-06	06-08	04-06
	Bangalore	02-04	01-03	01-03	03-05	03-05	05-07	03-05	01-03	04-06	04-06	06-08	04-06
	Chennai	03-05	01-03	01-03	03-05	03-05	05-07	03-05	01-03	06-08	04-06	01-03	04-06
	Mumbai	02-04	06-08	06-08	03-05	08-10	05-07	03-05	01-03	04-06	03-05	06-08	04-06
	Noida	02-04	01-03	01-03	05-07	03-05	05-07	04-06	01-03	11-13	04-06	01-03	04-06
	Pune	09-11	06-08	01-03	03-05	02-04	05-07	03-05	01-03	04-06	03-05	06-08	03-05
EP211	Ahmedabad	23-25	13-15	15-17	10-12	15-17	12-14	10-12	16-18	11-13	09-11	13-15	11-13
	Bangalore	09-11	06-08	06-08	10-12	08-10	12-14	10-12	07-09	11-13	09-11	13-15	11-13
	Chennai	09-11	06-08	06-08	10-12	08-10	12-14	10-12	07-09	11-13	09-11	06-08	11-13
	Mumbai	-	13-15	-	10-12	-	12-14	-	08-10	-	09-10	-	11-13
	Noida	23-25	20-22	14-16	11-13	15-17	28-30	10-12	08-10	14-16	09-11	20-22	11-13
	Pune	16-18	13-15	06-08	17-19	08-10	12-14	10-12	07-09	11-13	09-11	13-15	11-13
P122	Bangalore	23-25	20-22	20-22	24-26	22-24	19-21	17-19	-	18-20	23-25	27-29	-
	Chennai	16-18	-	13-15	-	15-17	-	17-19	-	-	-	13-15	-
	Mumbai	09-11	-	14-16	-	15-17	-	10-12	-	11-13	-	13-15	-
	Noida	-	06-08	29-31	-	22-24	-	24-26	21-23	20-22	12-14	27-29	26-28
	Pune	12-14	09-11	-	06-08	-	08-10	06-08	-	07-09	-	09-11	06-08
P121	Bangalore	16-18	-	-	-	29-31	-	24-26	-	25-27	-	27-29	-
	Chennai	-	-	16-18	-	18-20	-	20-22	-	14-16	-	-	21-23
	Mumbai	23-25	13-15	29-31	17-19	29-31	-	17-19	21-23	18-20	16-18	27-29	26-28
	Noida	-	-	06-08	-	10-12	-	13-15	16-18	-	-	-	14-16
PAP112	Bangalore	16-20	13-17	-	17-21	15-19	19-23	17-21	07-11	18-22	23-27	20-24	18-22
	Chennai	18-22	-	14-18	-	23-27	-	25-29	-	26-30	-	21-25	-
	Mumbai	09-13	-	-	17-21	-	19-23	-	28-01	-	23-27	-	18-22
	Noida	09-13	13-17	-	24-28	-	19-23	-	28-01	-	23-27	06-10	-
	Pune	09-13	06-10	-	03-07	02-06	05-09	03-07	01-05	04-08	03-07	06-10	03-07
EPA311	Ahmedabad	-	20-24	20-24	17-21	22-26	19-23	17-21	21-25	18-22	-	20-24	18-22
	Bangalore	18-22	22-26	-	-	23-27	13-17	18-22	-	26-30	-	21-25	-
	Chennai	-	13-17	-	17-21	-	19-23	-	-	18-22	-	20-24	-
	Mumbai	16-20	-	20-24	-	22-26	-	24-28	-	25-29	-	20-24	-
	Noida	16-20	-	20-24	17-21	-	12-16	17-21	-	04-08	-	13-17	18-22
	Pune	16-20	13-17	06-10	17-21	08-12	12-16	10-14	07-11	11-15	09-13	13-17	11-15
H511	Bangalore	02-04	01-03	01-03	03-05	03-05	05-07	03-05	01-03	04-06	04-06	06-08	04-06
	Chennai	23-25	-	20-22	-	29-31	-	24-26	-	25-27	-	27-29	-
	Pune	23-25	20-22	16-18	10-12	15-17	28-30	17-19	21-23	18-20	25-27	27-29	18-20
EH611	Bangalore	09-11	-	06-08	-	08-10	-	10-12	-	11-13	-	13-15	-
	Chennai	-	20-22	-	24-26	-	28-30	-	28-30	-	23-25	-	18-20
HPA711	Bangalore	-	13-17	-	17-21	-	19-23	-	-	18-22	23-27	-	18-22
	Pune	-	-	20-24	-	22-26	19-23	24-28	-	25-29	-	20-24	-
M711	Bangalore	-	06-10	-	24-28	-	19-23	-	07-11	-	09-13	20-24	-

Dates might be changed without prior notice.



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