The FPDA Motion & Control Network
The Motion & Control Sales Professional
Job Analysis

Background: a cross section of technical and sales resources met to define the characteristics of a strong, well-rounded **sales** professional in the fluid power industry. The supporting knowledge and skills requirements were assessed, and then exam questions created to test that. The following represents an overview of the selling and technical skills addressed in the M+CSP certification exam.

Sales Skills

I. Integrated Sales – *putting it all together for the customer*

- **Understand and interpret schematics**
- **Understand component sizing and how parts of the system work**
- **Know what the various symbols mean and how they're used**
- **Understand how to diagnose common problems**
- **Understand how to design and troubleshoot pneumatic systems, hydraulic systems, and electro-mechanical systems**

II. Business Sales – *understanding and using a variety of selling skills to identify and close business; manage the customer relationship*

- **Define and understand the steps in the sales process**
- **Understand and use tools to pursue profitable sales such as conducting risk analyses, determining profit margins and strategic pricing options, calculating gross vs. net margin, calculating ROI, etc.**
- **Formulate account prospecting strategies and sales call objectives**
- **Define strategies for effective listening and questioning**
- **Understand characteristics of an effective presentation**
- **Understand the competition – identifying the competition and their strengths and weaknesses**
- **Understand and implement strategies for effective customer service and relationship building**
- **Demonstrate effective communications skills, and time management skills**
- **Define effective negotiations skills, including presenting your product as a solution, not a commodity**

Technical Skills

A. Mechanical

1. Describe ratio and proportions related to power transmissions
2. Demonstrate knowledge of torque speed and horsepower
3. Define inertia and force
4. Identify mechanical components
5. Define function and purpose actuators
6. Demonstrate knowledge of cylinders
7. Define sources of power
8. Use common abbreviations

B. Electrical

9. Define basic electrical concepts and identify common components
10. Define relationship of coils to electrical power
11. Interpret wiring schematics and ANSI symbology
12. Differentiate between PNP & NPN

C. Pneumatic

13. Demonstrate basic knowledge of pneumatic systems
14. Demonstrate knowledge of directional valves
15. Demonstrate knowledge of pressure control valves
16. Demonstrate knowledge of flow control valves
17. Demonstrate knowledge of compressors
18. Demonstrate knowledge of dryers
19. Demonstrate knowledge of vacuum
20. Demonstrate knowledge of air preparation
21. Define ANSI symbology related to pneumatics

D. Hydraulics

22. Demonstrate basic knowledge of hydraulic systems
23. Demonstrate knowledge of pumps
24. Demonstrate knowledge of hydraulic directional valves
25. Demonstrate knowledge of hydraulic pressure controls
26. Demonstrate knowledge of hydraulic flow controls
27. Demonstrate knowledge of hydraulic actuators
28. Demonstrate basic knowledge of hydraulic power unit
29. Demonstrate knowledge of heat exchangers
30. Demonstrate knowledge of hydraulic filters
31. Demonstrate knowledge of proportional controls
32. Demonstrate knowledge of hydrostatics
33. Demonstrate knowledge of accumulator
34. Define ANSI Symbology related to hydraulics

E. Electro-Mechanical

35. Identify appropriate applications for VFD
36. Identify appropriate applications for servo and stepper drives
37. Describe motion profiles

F. Automation

38. Define basic applications and limitations of PLC's
39. Describe basic applications and limitations of sensors
40. Describe basic applications and limitations of HMI

41. **Define common types of communication protocols**
42. **Identify basic programming languages**