

1. Title	Install hydraulic installations	
2. Code	EMPEIN203A	
3. Range	Carry out general installation tasks for hydraulic installations in general industrial plants, power plants or other places.	
4. Level	2	
5. Credits	9	
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Composition of hydraulic drive system</p> <ul style="list-style-type: none"> ◆ Know about hydraulic drawings of hydraulic systems <ul style="list-style-type: none"> • Component parts and their functions in the system • Symbols used for the system ◆ Know about the basic working principles of various types of oil hydraulic pumps and motors <ul style="list-style-type: none"> • Classification of various types of oil hydraulic pumps and motors • Characteristic curve of main performance parameters ◆ Know about the basic working principles of various types of hydraulic cylinders <ul style="list-style-type: none"> • Classification and characteristics of hydraulic cylinders ◆ Know about the basic working principles of various types of hydraulic control valves <ul style="list-style-type: none"> • Classification and characteristics of various types of hydraulic control valves ◆ Know about the classification and hazards of hydraulic system media ◆ Know about the classification and materials of seals ◆ Know about the composition of the accessories (e.g. hydraulic pipes) <p>6.2 Methods and procedures of installing various types of hydraulic pumps, hydraulic motors, hydraulic cylinders and hydraulic control valves</p> <ul style="list-style-type: none"> ◆ Follow the installation guides to install various types of hydraulic pumps and motors <ul style="list-style-type: none"> • Gear pumps and motors • Vane pumps and motors • Ram pumps and motors ◆ Follow the installation guides to install various types of hydraulic cylinders ◆ Follow the installation guides to install various types of hydraulic control valves <ul style="list-style-type: none"> • Pressure control valves • Flow control valves • Direction control valves • Cartridge valves • Electrolyte proportional valves 	

	<p>6.3 Professionalism in installing hydraulic equipment</p> <ul style="list-style-type: none"> ◆ Perform installation tasks for various types of sealing rings <ul style="list-style-type: none"> • O ring seal • Lip seal • Coaxial seal and supporting ring • Mechanical seal • Dust proof ring ◆ Perform installation of accessories <ul style="list-style-type: none"> • Accumulator • Oil tank • Cooler • Hydraulic pipes (such as steel pipe and high pressure plastic hose) and fittings ◆ Follow the installation guidelines to perform installation tasks for hydraulic installations ◆ Follow the installation guidelines to perform installation tasks for hydraulic drive system and various types of control loops <ul style="list-style-type: none"> • Pressure control loops • Speed control loops • Direction control loops
7. Assessment Criteria	<p>The integrated outcome requirements of this unit of competency is:</p> <p>(i) Capable to follow installation guidelines to perform installation tasks under instruction for various types of hydraulic pumps, hydraulic motors, hydraulic cylinders control valves, hydraulic seal devices and accessories.</p>
8. Remarks	<p>The credit value of this unit of competency is set on the presumption that the person already possesses general bench fitting techniques and elementary mechanical knowledge.</p>