Flexform™ Fluid Cell Presses

Type QFL

Features and benefits

- High pressure (80 MPa) produces complex shapes to close tolerances with little or no manual rework.
- Very low tooling cost and greater flexibility in part design.
- Fast cycles for higher throughput and productivity.
- The press is easy to install.
- Ideal for off-loading and back-up to larger press systems.

High Productivity Fluid Cell Presses

Quintus® QFL presses are compact units with circular trays, designed forfast forming of smaller parts. Cycles average below one minute, with maximum pressure of 800 bar. These presses are commonly used for off-loading and back-up for larger rectangular tray presses and for rapid forming of smaller parts.

Flexform high pressure technology has been used for decades by such industry leaders as Airbus, Boeing, British Aerospace, Bombardier, Cessna, Lockheed, and many, many others. Users report shorter part lead times, significantly lower tooling costs (one piece instead of three), fast prototyping, and easy tool modification after component design changes. Parts formed by the QFL press can include small to medium sized components, with simple shallow or complex deep-drawn shapes.

The Flexform concept is simple: sheet metal blanks are formed over a single rigid, shape defining tool half by a flexible rubber diaphragm under uniform hydrostatic pressure. Tool halves and blanks are freely placed in circular trays which shuttle in and out of the press frame containing the pressurized diaphragm. The process results in scratch-free parts regardless of the sheet thickness or complexity of the tool, including undercuts. High forming pressure ensures close tolerance parts direct from the press with little or no secondary hand work required.

Fluid Cell Presses Type QFL

	QFL 0.8-800	QFL 1.1-800
Maximum operating pressure	80 MPa	80 MPa
Max pressforce	4,000 ton	8,000 ton
Total press length including tray stations	14.8 ft	18.4 ft
Total press width	11.5 ft	11.5 ft
Total press height above floor	10.8 ft	10.8 ft
Height from floor to tray top	38”	38”
Foundation depth	0 at floor level	500 mm
Total weight (on press foundation)	15 ton	32 ton
The dimensions given above include the hydraulic equipment		
Tray data		
Number of tray stations	2	2
Maximum tray depth	4.6”	7.0”
Maximum tool height with throw pad	5.5”	8.7”
Tray depth with filler plates	3.0”	3.1”
Maximum tray diameter with filler ring	26.0”	37.4”
Maximum tray diameter	28.7”	41.0”
Transportation data		
Gross weight of heaviest item	14 ton	30 ton
Gross dimensions of heaviest item (LxWxH)	7.2x6.6x10.8 ft	13.1x8.2x6.6 ft
Control system		
Programmable controller	(PLC) Siemens	
HMI Panel	Siemens	
Flat color touch screen size	5.7”	
HMI Operative system	Windows CE	
Cycle time		
Presumptions used when calculating the cycle time:		
- Filler plate in the tray		
- 50% average tray loading		
- 70% of maximum operating pressure		
Cycle time without hold time	30 seconds	50 seconds
Sound level		
Noise level at operator’s station	<80 dB (A) equivalent	
Site utilities – electric power		
Incoming current protection	125 A	
Installed power	70 kW	
Voltage (three-phase + ground)	380–480 V	
Frequency	50/60 Hz	

Aerospace parts made in an Quintus Flexform press at the Cessna Aerospace Company, in Wichita, KA, USA.

Aerospace parts formed in an Quintus Flexform press at Embraer in Brazil.

Aerospace parts made in aluminium alloys, stainless steel and titanium.

For more information please visit:
www.quintustechnologies.com

Quintus Technologies AB
Headquarters
Europe/Asia Sales & Service
Quintusvägen 2
SE 721 66 Västerås, Sweden
Phone: +46 21 32 70 00
Fax: +46 21 14 18 17

Quintus Technologies LLC
Americas Sales & Service
8270 Green Meadows Drive N
Lewis Center, Ohio 43035
Phone: +1 614 891 2732
Fax: +1 614 891 4568

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