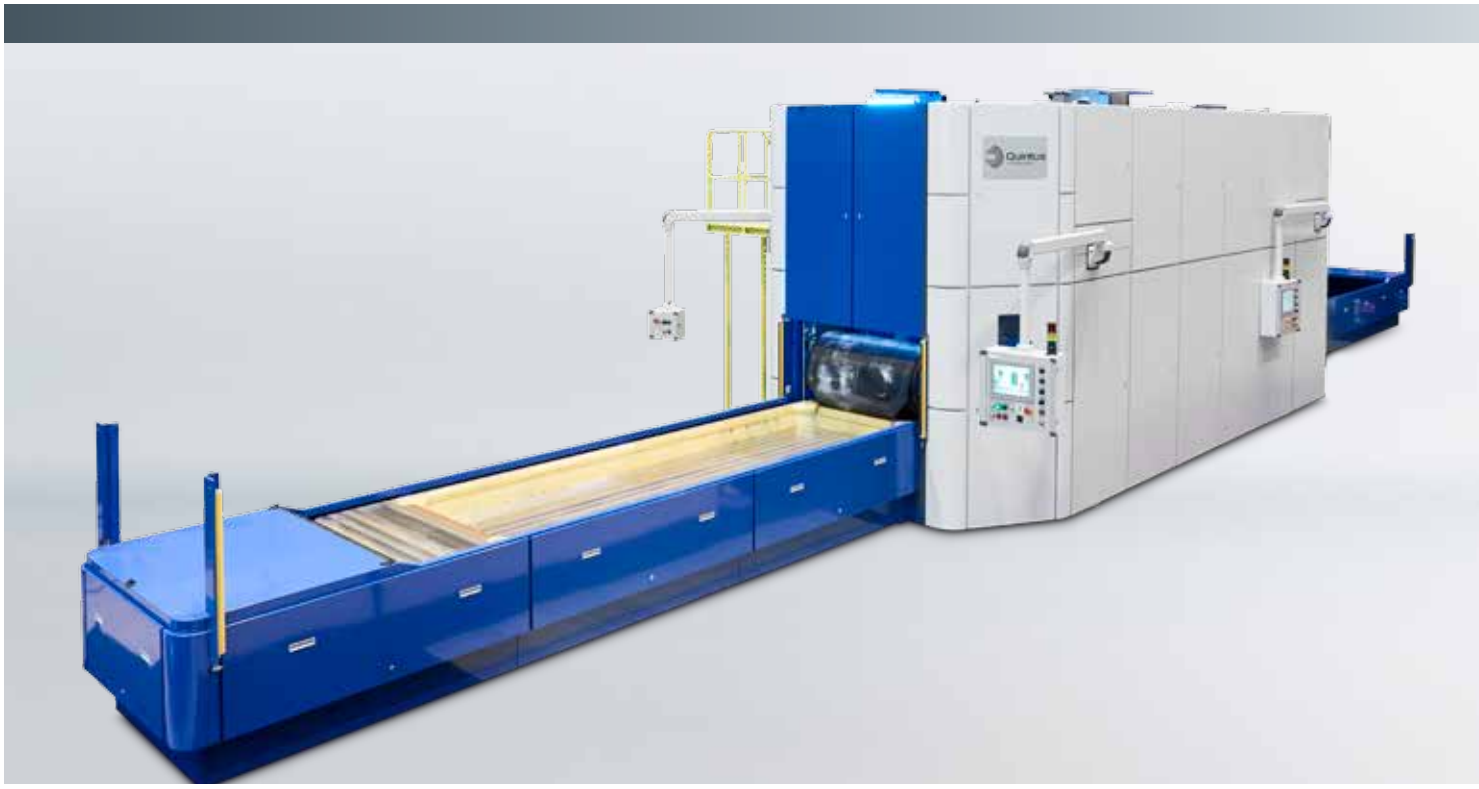
Flexform™ Fluid Cell Presses



Features and benefits

- Very low tool cost and short lead times make Flexform ideal for low volume production of high quality sheet metal parts.
- The sheet metal part is formed over one rigid, shape-defining tool half by a flexible rubber diaphragm supported by high hydraulic pressure.
- The use of a single tool half result in in short leads times, low tool cost, fast try-out and easy tool modification after component design changes.
- High pressure produce complex shapes to close tolerances with little or no manual rework.

Low Cost Sheet Metal Forming

Flexform high pressure technology has been used for decades by such industry leaders as Airbus, Boeing, British Aerospace, Bombardier, Cessna, Daimler, Ford, Lockheed, Volvo 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. Formed parts can include small shallow components, large panels, and 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 rectangular trays which shuttle in and out of the press frame containing the pressurized diaphragm.

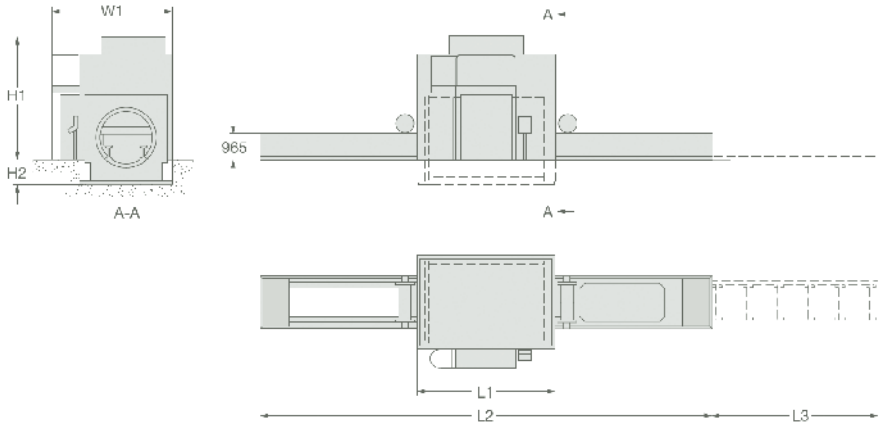
The process results in scratch-free parts regardless of the sheet thickness or complexity of the tool, including undercuts. High forming pressure ensures close tolerance parts direct from the press with little or no secondary hand work required.

Fluid Cell Presses Type QFC

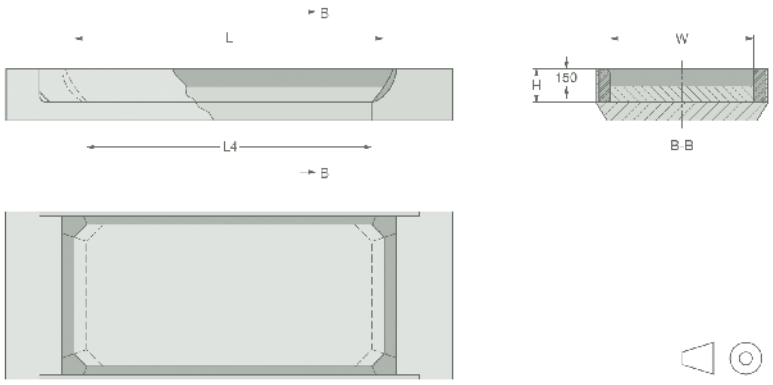
QFC Press designation*	Tray width W (m)	Tray length L (m)	Pressure (bar)	Tray length L4 (m)	Tray depth H (m)	Press length L1 (m)	Total length L2 (m)	Diaphragm exchange L3 (m)	Total width W1 (m)	Total height H1 (m)	Foundation depth H2 (m)	Total weight foundation (tons)	Max transport weight (tons)	Installed power (kW)	Cycle time** (s)	Press force metric (tons)
QFC 0.7 x 1.8-800	0.7	1.83	800	1.83	0.175	3.0	11	4	2.3	3.0	0	32	28	68	72	17,000
QFC 1 x 2-800	1	2	800	2.0	0.22	3.7	13.4	4.5	2.2	3.6	0	65	40	75	85	25,000
QFC 1.1 x 3-1000	1.1	3	1,000	2.77	0.265	5.2	17.1	5.5	2.9	4.1	0.6	115	70	150	75	47,000
QFC 1.1 x 3-1400	1.1	3	1,400	2.77	0.265	5.2	17.1	5.5	2.9	4.1	0.6	130	85	150	95	66,000
QFC 1.1 x 4-1000	1.1	4	1,000	3.77	0.265	6	20.1	6.5	2.9	4.1	0.6	140	80	150	100	61,000
QFC 1.1 x 4-1400	1.1	4	1,400	3.77	0.265	6	20.1	6.5	2.9	4.1	0.6	160	100	150	110	85,000
QFC 1.2 x 3-1000	1.2	3	1,000	2.76	0.28	5.2	17.1	5.5	2.9	4.1	0.6	130	75	150	95	51,000
QFC 1.2 x 3-1400	1.2	3	1,400	2.76	0.28	5.2	17.1	5.5	2.9	4.1	0.6	145	90	150	105	71,000
QFC 1.2 x 4-1000	1.2	4	1,000	3.76	0.28	6	20.1	6.5	2.9	4.1	0.6	155	85	150	105	66,000
QFC 1.2 x 4-1400	1.2	4	1,400	3.76	0.28	6	20.1	6.5	2.9	4.1	0.6	180	110	150	125	92,000
QFC 1.4 x 3-1000	1.4	3	1,000	2.72	0.315	5.2	17.1	5.5	2.9	4.1	0.7	160	85	150	100	58,000
QFC 1.4 x 3-1400	1.4	3	1,,400	2.72	0.315	5.2	17.1	5.5	2.9	4.1	0.7	190	115	150	115	82,000
QFC 1.4 x 4-1000	1.4	4	1,000	3.72	0.315	6	20.1	6.5	2.9	4.1	0.7	195	105	150	120	75,000
QFC 1.4 x 4-1400	1.4	4	1,400	3.72	0.315	6	20.1	6.5	2.9	4.1	0.7	235	145	150	135	105,000
QFC 1.6 x 3-1000	1.6	3	1,000	2.64	0.36	5.2	17.1	5.5	3.0	4.1	0.7	210	115	150	110	66,000
QFC 1.6 x 3-1400	1.6	3	1,400	2.64	0.36	5.2	17.1	5.5	3.0	4.1	0.7	225	140	150	125	92,000
QFC 1.6 x 4-1000	1.6	4	1,000	3.64	0.36	6	20.1	6.5	3.0	4.1	0.7	240	135	150	135	85,000
QFC 1.6 x 4-1400	1.6	4	1,400	3.64	0.36	6	20.1	6.5	3.0	4.1	0.7	270	170	150	150	119,000
QFC 1.8 x 3.6-1000	1.8	3.6	1,000	3.6	0.4	6	22.6	6.8	5.5	4.8	1.3	350	200	250	100	93,000

* The figures in the designation denote: Tray width x Tray length - Max. forming pressure
** Cycle time estimated for tray with filler plate and average 50% loading of tray area and at 70% of maximum pressure

Press dimensions



Tray dimensions



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

Automotive prototypes and parts produced in low volumes for niche vehicles.

Flexformed parts for prototyping and small series production.

For more information please visit **www.quintustechnologies.com** or email **info@quintusteam.com**

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