

## H-Frame Presses



HyperCyl® H-Frame design presses are primarily used for assembly and forming applications requiring a pass-through design for ease of part loading and unloading. Constructed of A36 steel, all cylinder mounting plates, upper and lower bolsters and tooling plates are blanchard ground and zinc blackened. Columns are made from 100,000 tensile, 1045 ground polished and chromed steel. The Frames may be disassembled for customer machining or modifications. Standard H-Frames are available in 1 through 50 ton sizes with unguided, two column and four column guided bolsters.

From the small 1 and 2 ton standard presses to a custom H-Frame press, all HyperCyl products feature the latest in safety compliance, hydraulic technology and mechanical design. Options include safety light curtains, stroke limiters, IntelliCyl® IMS distance/force monitoring systems and tooling ready bolsters and beds.

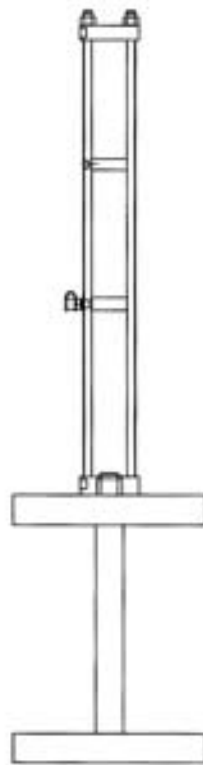
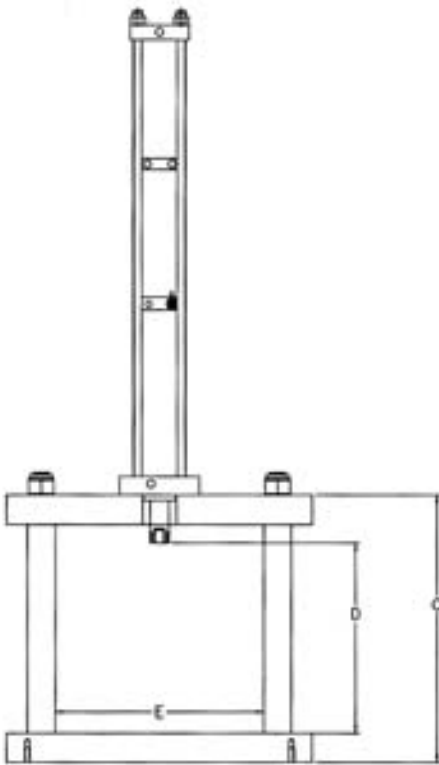
Model/Size (Ton)	H**-01	H**-02	H**-04	H**-08	H**-10	H**-15	H**-20	H**-30	H**-50
Output Force (lb.) (30-100 PSI)	670-2234	1636-5454	2626-8754	4765-15886	7788-25963	9424-31416	11635-38785	19543-65144	31503-105044
Total Ram Stroke <sup>(1)</sup>	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"	6.00"
Total Ram Power Stroke <sup>(2)</sup>	.50"	.50"	.50"	.50"	.50"	.50"	.50"	.50"	.50"
Maximum Tooling Weight (lb.)	55	105	170	375	575	575	575	820	1510
Air Consumption (CFM @ 60 PSI) per complete cycle	.136	.267	.426	.886	1.079	1.356	1.568	2.510	4.204
Maximum Operating Speed (in./sec.)***	18	18	18	18	18	18	18	18	18
Min./Max. Operating Pressure (air)	100	100	100	100	100	100	100	100	100
A	12.00	12.00	14.00	14.00	18.00	18.00	18.00	21.00	24.00
A4	16.00	16.00	22.00	22.00	27.00	27.00	27.00	30.500	35.00
B	16.00	16.00	22.00	22.00	27.00	27.00	27.00	30.500	35.00
B4	16.00	16.00	22.00	22.00	27.00	27.00	27.00	30.500	35.00
C	14.250	14.250	17.250	17.250	21.750	21.750	21.750	25.750	32.00
C1	17.625	17.625	21.615	21.615	27.485	27.485	27.485	32.615	41.00
D	10.00	10.00	12.00	12.00	15.00	15.00	15.00	18.00	21.00
E	11.00	11.00	15.00	15.00	18.00	18.00	18.00	21.00	24.00
F	10.00	10.00	12.00	12.00	14.00	14.00	14.00	19.00	22.00
F4	15.500	15.500	21.500	21.500	26.500	26.500	26.500	30.00	34.813
G	13.00	13.00	19.00	19.00	24.00	24.00	24.00	27.500	32.00
G4	13.00	13.00	19.00	19.00	24.00	24.00	24.00	27.500	32.00
H	9.00	9.00	11.00	11.00	15.00	15.00	15.00	18.00	21.00
H4	13.00	13.00	19.00	19.00	24.00	24.00	24.00	27.50	32.00
Ram Thread (unguided)	3/4-16 1.00 DP.	3/4-16 1.00 DP.	3/4-16 1.00 DP.	3/4-16 1.00 DP.	1 1/2-12 2.25 DP.	1 1/2-12 2.25 DP.	1 1/2-12 2.25 DP.	1 7/8-12 3.00 DP.	2 1/4-12 3.50 DP.
K	3/8-16x1.00	3/8-16x1.00	3/8-16x1.00	3/8-16x1.00	1/2-13x1.00	1/2-13x1.00	1/2-13x1.00	5/8-11x1.00	3/4-10x1.50

1. Optional Total Ram Stroke Length – 2.00", 4.00" and 8.00"

2. Optional Ram Power Stroke Lengths – .250", .750" and 1.00"

Please contact factory for custom applications or for information on 75, 100 ton and non-standard frame dimensions.

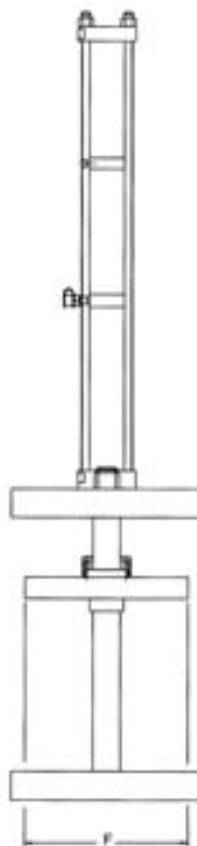
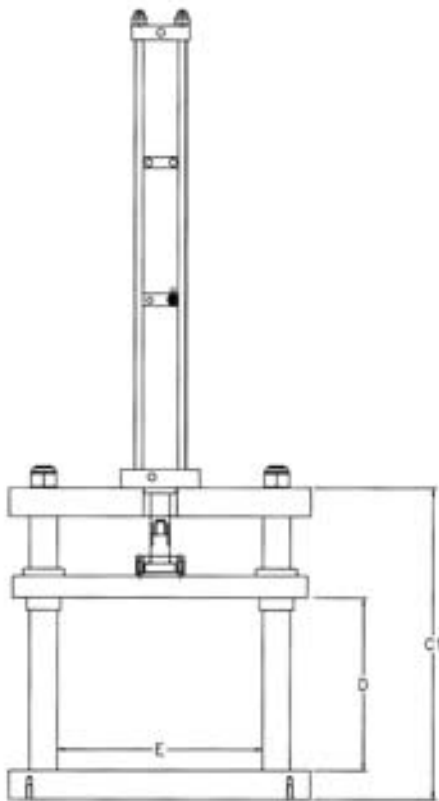
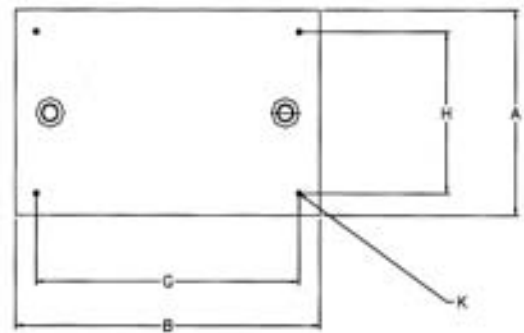
\*\*\* Maximum speed of the seals (not maximum speed of cylinder).


**Model HD2 -\*\***

Standard construction includes A36 blanchard ground and zinc black plates, 1045 ground, polished and hard chromed columns. Lower plate may be modified at the factory for customer supplied tooling.

**Frame Options:**

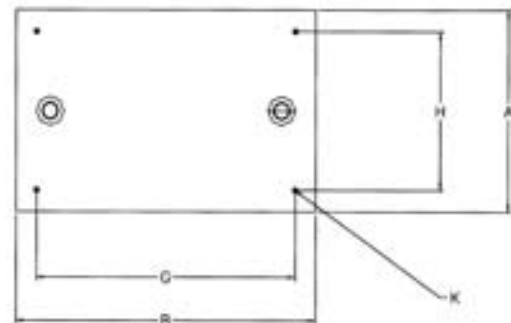
- T-Slots
- Center Through Hole
- Die Set Couplings
- Daylight Opening and Plate Dimensions


**Model HD2G -\*\***

Standard construction includes A36 blanchard ground and zinc black plates, 1045 ground, polished and hard chromed columns, replaceable bronze guide bearings and PAF series die set coupling. Lower plate may be modified at the factory for customer supplied tooling.

**Frame Options:**

- T-Slots
- Center Through Hole
- Daylight Opening and Plate Dimensions

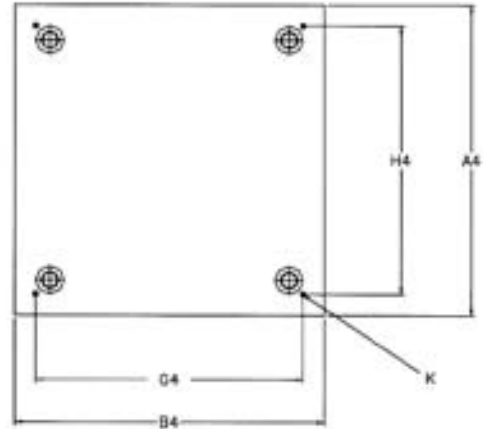
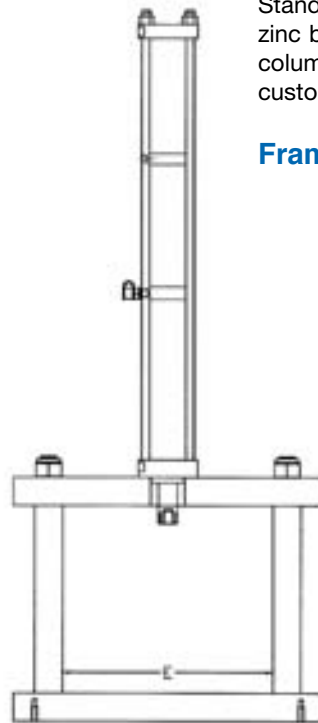
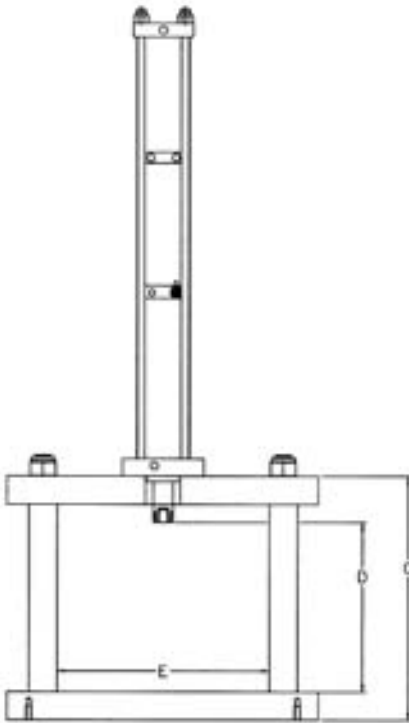


## Model HD4 -\*\*

Standard construction includes A36 blanchard ground and zinc black plates, 1045 ground, polished and hard chromed columns. Lower plate may be modified at the factory for customer supplied tooling.

### Frame Options:

- T-Slots
- Center Through Hole
- Daylight Opening and Plate Dimensions

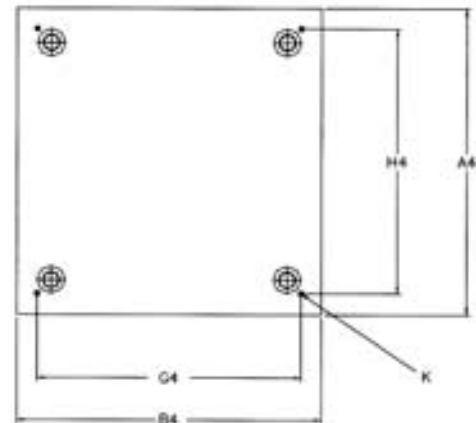
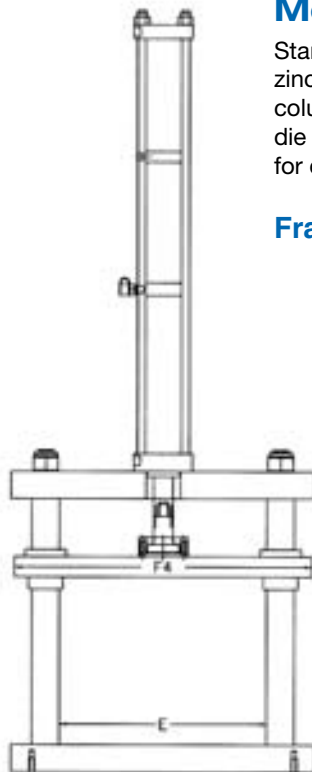
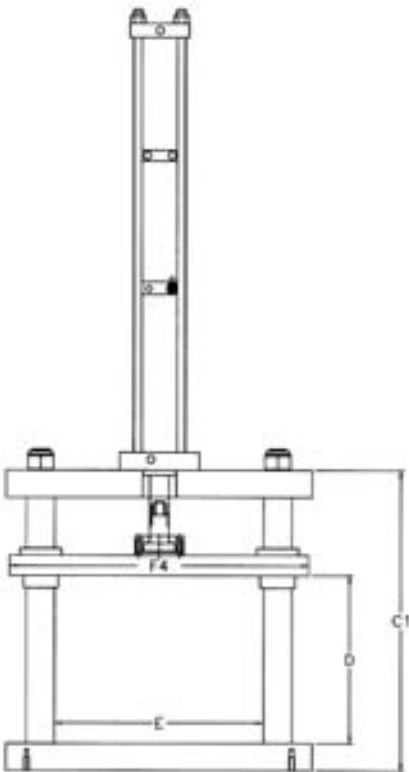


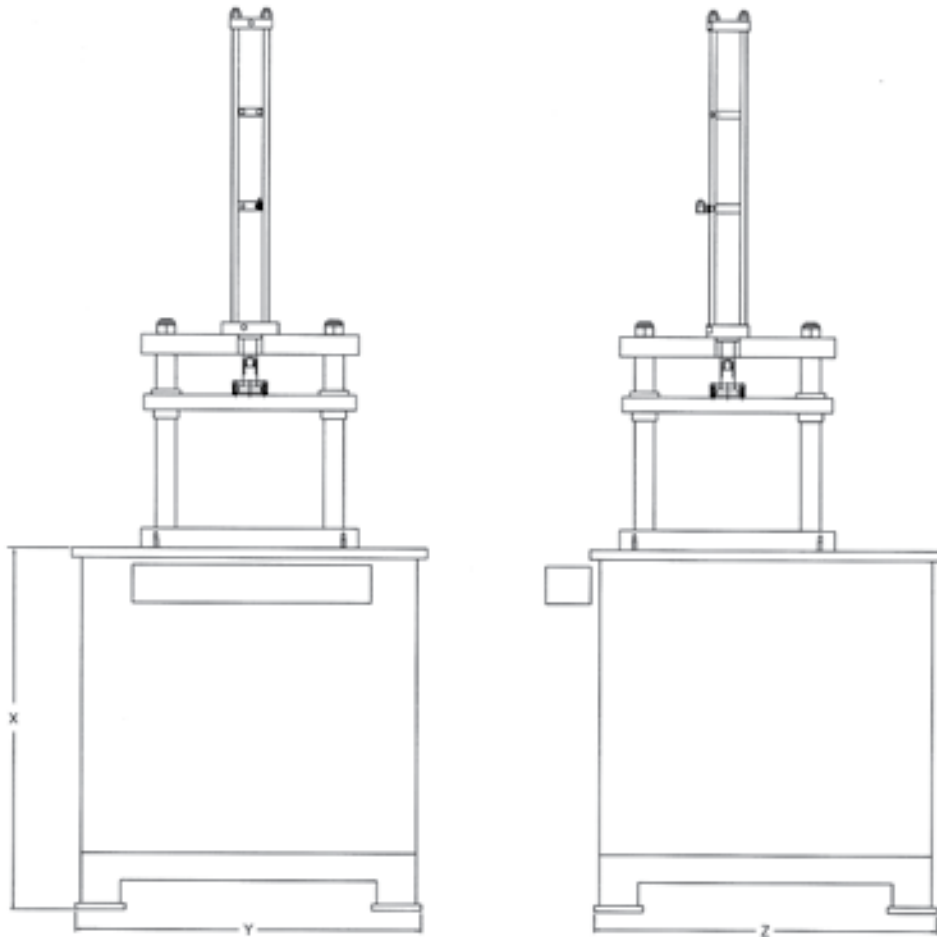
## Model HD4G -\*\*

Standard construction includes A36 blanchard ground and zinc black plates, 1045 ground, polished and hard chromed columns, replaceable bronze guide bearings and PAF series die set coupling. Lower plate may be modified at the factory for customer supplied tooling.

### Frame Options:

- T-Slots
- Center Through Hole
- Daylight Opening and Plate Dimensions





### Model MB -\*\*

Standard construction is heavy square steel tube or roll formed uprights and cross bracing with 1.00" blanchard ground top, (3) removable access panels, leveling screws. Bases are primed and painted AEC White or finished to customer paint specifications.

#### Frame Options:

- T-Slots
- Center Through Hole
- Daylight Opening and Plate Dimensions

Size	X*	Y	Z
MB-01/02	37.00	36.00	36.00
MB-04/08	37.00	36.00	36.00
MB-10/15/20	37.00	42.00	48.00
MB-30	37.00	48.00	48.00
MB-50	37.00	48.00	48.00

\*Operator work height. Specify if other dimension is required.



### PLC1 Control Package

The PLC1 press control package is the most versatile control system for all HyperCyl® presses. Easily upgradeable with various options, the PLC1 control package permits an unlimited amount of press functionality and program changes to accommodate different applications.

- PLC Controller with 24 VDC Power Supply
- Control Redundancy Relay
- Optical Opto-Touch Two Handed Non-Tiedown-Anti-Repeat Press Initiate
- E-Stop, Power On/Off Push Buttons
- Auto Run/Jog Push Buttons
- User Adjustable Pressure Achieved Ram Retract Control
- Complete Pneumatic Controls with Main Air Filter, Regulator, Lubricator and Lock-Out/Tag-Out Valve
- Ram Speed Flow Control

### PLC1 Options

- 6.00" Monochromatic MMI TouchScreen Panel
- 6.00" Color HMI TouchScreen
- Panel Mounted Cycle Counter
- Panel Mounted Digital Pressure /Force Meter
- Ram Position/Force Monitoring and Control – IntelliPress® IMS *in-process* quality system
- Remote Force Control Adjustment
- Safety Light Curtains
- Foot Switch Control



### EC1 Control Package

The EC1 press control package provides basic, dedicated electric press control for all HyperCyl press systems. All control logic operator push buttons are contained within the two-hand control enclosure.

- Self-contained, Dedicated Logic Control with 110VAC Power Cord
- Photo-Optic Sensors for Press Initiate (insert finger(s) within .3 sec). Non-Tie Down, Anti-Repeat
- User Adjustable Pressure Achieved Ram Retract Control
- Complete Pneumatic Controls with Main Air Filter, Regulator, Lubricator and Lock-Out/Tag-Out Valve
- Part Contact (tooling closed) Power Stroke Sequence Sensor
- Ram Speed Flow Control

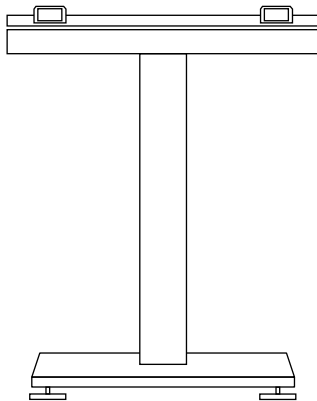


### PN1 Control Package

The PN1 press control package provides basic, dedicated pneumatic press control for HyperCyl press systems. All control logic and operator push buttons are contained within the two-hand control enclosure.



- Self-contained, Dedicated Logic Control
- Light Actuation, Recessed Push Buttons for Press Initiate (insert finger(s) within .3 sec).
- Non-Tie Down, Anti-Repeat
- User Adjustable Time Achieved Ram Retract Control
- Complete Pneumatic Controls with Main Air Filter, Regulator, Lubricator and Lock-Out/Tag-Out Valve
- Part Contact (tooling closed) Power Stroke Sequence Sensor
- Ram Speed Flow Control

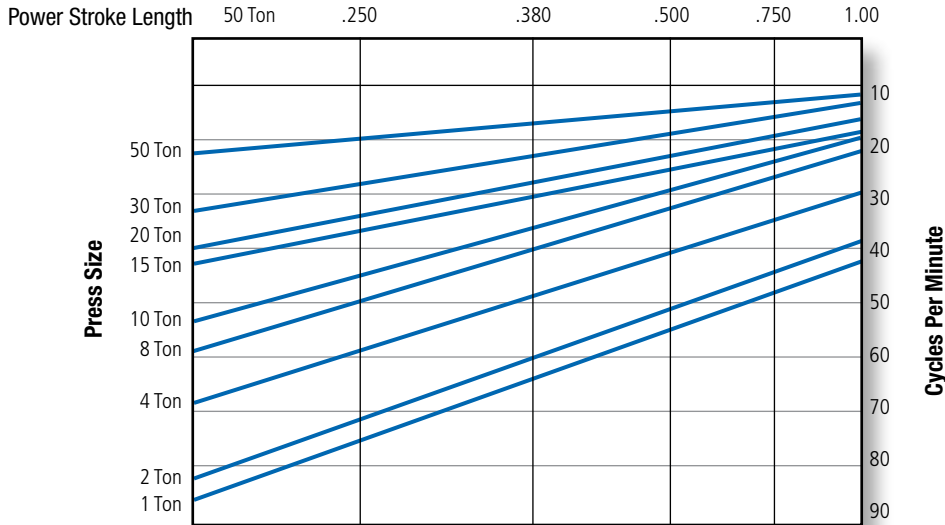


### Remote Operation Station

Where assembly processes, part size or operator safety and ergonomics do not permit the operator control to be located on the press, the remote operator station option places the operator two-hand control and E-Stop function controls on a remote stand. The stand can be positioned anywhere within 6 ft. of the press and is height adjustable from 30.00" to 40.00". All control lines are protected by heavy nylon sleeve, strain relieved. Connection by single plug-in to back of main control panel.

- Multiple station operation – two operators required for press actuation
- Ergonomically designed
- Height adjustable, easily positioned for various applications

### Cycle Rates - HyperCyl® Presses



Values shown above assume a nominal 4.00" total ram stroke operating at 75% of rated press capacity. Changes in total stroke, main air supply volume and tooling weight can alter these ratings up to 35%. Please contact AEC/HyperCyl for specific application assistance. Values are approximate.

### Air Consumption - HyperCyl® Presses

The following chart may be useful when planning your plant air requirements for HyperCyl® press systems. To solve for total air consumption in CFM, find the appropriate size press and multiply the "Air Consumption" value times the cycles per minute. Values are approximate and may vary depending on air pressure.

Press Size	Air Consumption @ 60 PSI per Cycle (CFM)
1 Ton	.136
2 Ton	.267
4 Ton	.426
8 Ton	.886
10 Ton	1.079
15 Ton	1.356
20 Ton	1.568
30 Ton	2.510
50 Ton	4.204

### Process Cycle Time/Production Rates

The following chart may be useful when determining machine cycle times. All rates are based upon a 52 week year with 40 hour, single shift work weeks operating at 100% efficiency. Adjust final value to suit your own holidays, shutdowns, efficiencies and multiple shifts.

Time (Seconds)	Rate Per Minute	Rate Per Hour	Rate Per 8 Hour Day	Rate Per 40 Hour Week	Rate Per Month (4.33 Weeks Per Month)	Rate Per Year (52 Weeks)
0.5	120.00	7,200	57,600	288,000	1,247,040	14,964,480
1	60.00	3,600	28,800	144,000	623,520	7,482,240
2	30.00	1,800	14,400	72,000	311,760	3,741,120
3	20.00	1,200	9,600	48,000	207,840	2,494,080
4	15.00	900	7,200	36,000	155,880	1,870,560
5	12.00	720	5,760	28,800	124,704	1,496,448
6	10.00	600	4,800	24,000	103,920	1,247,040
7	8.57	514	4,114	20,571	89,074	1,068,891
8	7.50	450	3,600	18,000	77,940	935,280
9	6.67	400	3,200	16,000	66,280	831,360
10	6.00	360	2,880	14,400	62,352	748,224
11	5.45	327	2,618	13,091	56,684	680,204
12	5.00	300	2,400	12,000	51,960	623,520
13	4.62	277	2,215	11,077	47,963	575,557
14	4.29	257	2,057	10,286	44,537	534,446
15	4.00	240	1,920	9,600	41,568	498,816
16	3.75	225	1,800	9,000	38,970	467,640
17	3.53	212	1,694	8,471	36,678	440,132
18	3.33	200	1,600	8,000	34,640	415,680
19	3.16	189	1,516	7,579	32,817	393,802
20	3.00	180	1,440	7,200	31,176	374,112
21	2.86	171	1,371	6,857	29,691	356,297
22	2.73	164	1,309	6,545	28,342	340,102
23	2.61	157	1,252	6,261	27,110	325,315
24	2.50	150	1,200	6,000	25,980	311,760
25	2.40	144	1,152	5,760	24,941	299,290
26	2.31	138	1,108	5,538	23,982	287,778
27	2.22	133	1,067	5,333	23,093	277,120
28	2.14	129	1,029	5,143	22,269	267,223
29	2.07	124	993	4,966	21,501	258,008
30	2.00	120	960	4,800	20,784	249,408
40	1.50	90	720	3,600	15,588	187,056
50	1.20	72	576	2,880	12,470	149,645
60	1.00	60	480	2,400	10,392	124,704

Note: The above table is for reference purpose only and does not include values for dwell, part load/unload, part indexing or cold form dwell times. Please contact factory for additional information or application engineering.