



# *Futura Series*

## **...The energy efficient molding solution**



**60 Ton - 650 Ton  
Injection Molding Machine**

- Servo
- Energy Efficient
- Industry 4.0 Ready

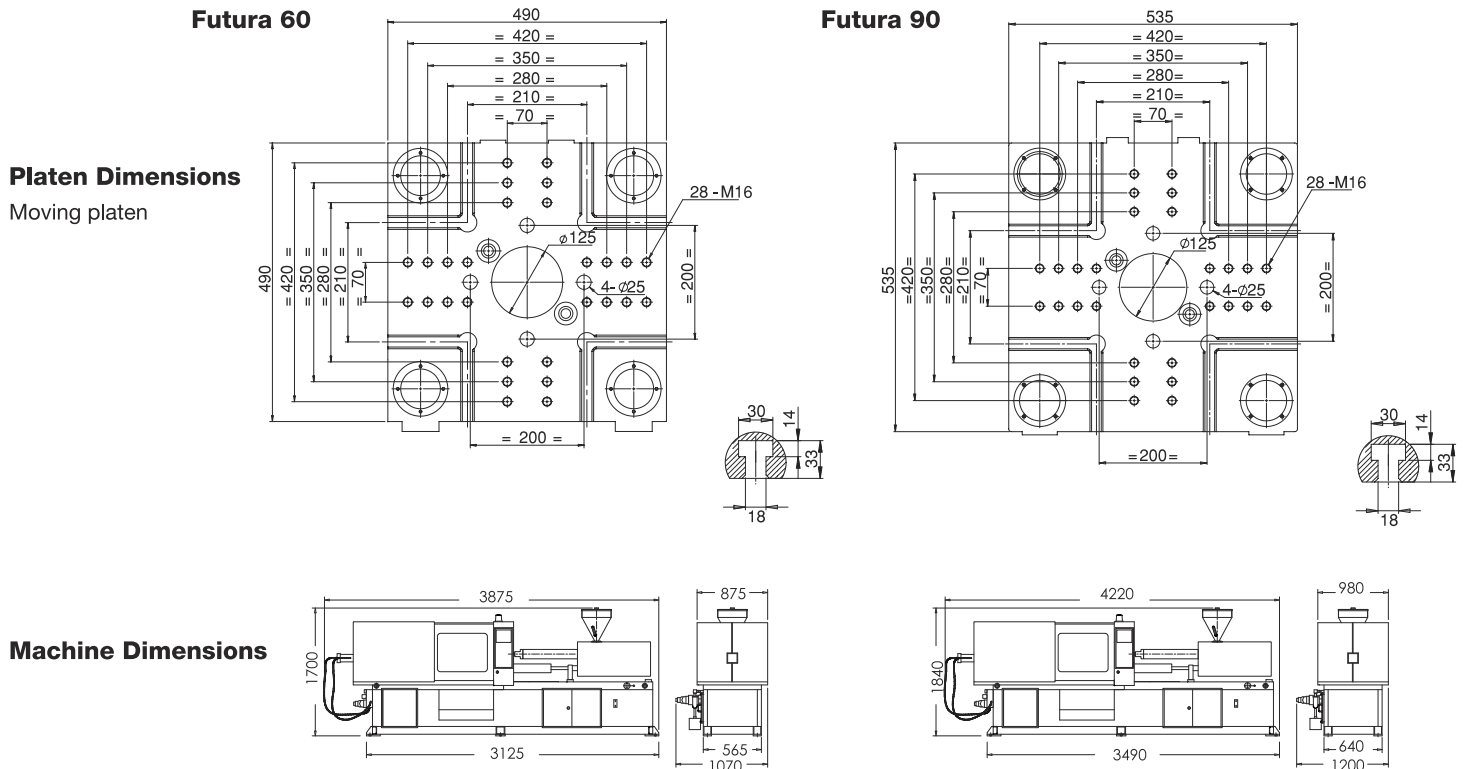
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# "FUTURA" SERIES INJECTION MOLDING MACHINES - TECHNICAL SPECIFICATIONS

MODEL		Fu 60-128-15				Fu 60-214-18			Fu 90-128-15				Fu 90-214-18			Fu 90-451-18		
International code		600H-128				600H-214			900H-128				900H-214			900H-451		
Injection unit number		128				214			128				214			451		
Injection Unit		X	A	B	C	A	B	C	X	A	B	C	A	B	C	A	B	C
Screw Diameter	mm	22	28	31	35	31	35	40	22	28	31	35	31	35	40	40	45	50
Screw Length	L/D	23	21	19	17	22	19	17	23	21	19	17	22	19	17	20	18	16
Stroke Volume	cm <sup>3</sup>	42	68	83	106	102	130	170	42	68	83	106	102	130	170	203	258	318
Injection Weight max. (PS)**	g	40	64	79	100	97	123	161	40	64	79	100	97	123	161	193	245	302
Injection Rate #	cm <sup>3</sup> /s	65	105	129	164	99	126	164	65	105	129	164	99	126	164	95	120	148
Plasticizing Rate #	g/s	6.5	9.6	11.8	15.1	11.8	15.0	19.6	6.5	9.6	11.8	15.1	11.8	15.0	19.6	16.9	21.4	26.4
Screw Stroke	mm	110				135			110				135			162		
Injection Pressure	Bar	2850	1897	1548	1214	2097	1645	1259	2850	1897	1548	1214	2097	1645	1259	2218	1752	1419
Screw RPM	-	354				271			354				271			231		
Clamping Unit																		
Clamping Force	kN	600				600			900				900			900		
Mold Opening Stroke	mm	300				300			320				320			320		
Dist Bet. Tie Bars, H x V	mm	320 x 320				320 x 320			360 x 360				360 x 360			360 x 360		
Mold Thickness, min/max.	mm	100 - 320				100 - 320			100 - 350				100 - 350			100 - 350		
Max. Daylight	mm	620				620			670				670			670		
Platen Dimensions, H x V	mm	490 x 490				490 x 490			535 x 535				535 x 535			535 x 535		
Ejector Stroke	mm	100				100			100				100			100		
Ejector Force	kN	33.4				30.4			33.4				30.4			30.9		
Ejector Number		5				5			5				5			5		
General Data																		
Pump Drive	kW	12 (8.2)				12 (8.2)			12 (8.2)				12 (8.2)			12 (8.2)		
Installed Heating Capacity	kW	6.46				7.65			6.46				7.65			10.3		
Total Connected Power	kW	18.46 (14.66)				19.65 (15.85)			18.46 (14.66)				19.65 (15.85)			22.30 (18.50)		
Machine Dimensions (LxWxH)	M	3.7 x 1.5 x 1.7				3.7 x 1.5 x 1.7			3.8 x 1.6 x 1.8				3.8 x 1.6 x 1.8			3.8 x 1.6 x 1.8		
Oil Tank Capacity	lit	140				140			190				190			190		
Net Weight (without Oil)	t	3.1				3.3			3.7				3.9			4		

NOTE : #Achieved in air injection. \*Theoretical value; actual value may vary depending on material, melt density & residence time. Specifications are subject to change due to continuous improvements.





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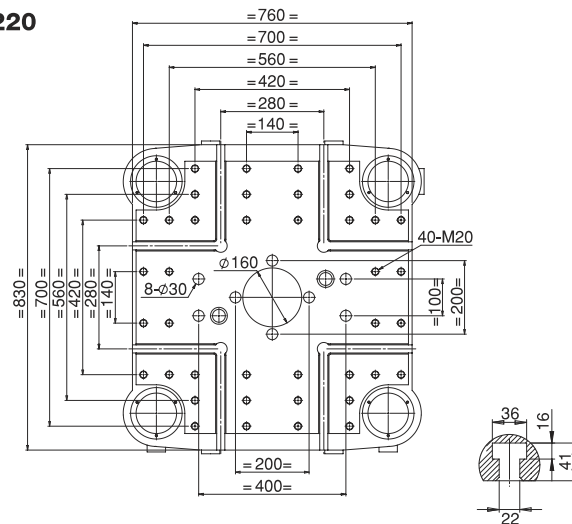
MODEL		Fu 160-893-32			Fu 220-573-18			Fu 220-592-22			Fu 220-851-22			Fu 220-893-32		
International code		1600H-893			2200H-573			2200H-592			2200H-851			2200H-893		
Injection unit number		893			573			592			851			893		
<b>Injection Unit</b>		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Screw Diameter	mm	50	55	60	45	50	55	45	50	55	50	55	60	50	55	60
Screw Length	L/D	21	19	17	21	19	17	21	19	17	21	19	17	21	19	17
Stroke Volume	cm <sup>3</sup>	396	480	571	286	353	427	286	353	427	396	480	571	396	480	571
Injection Weight max. (PS)**	g	377	456	542	272	336	406	272	336	406	377	456	542	377	456	542
Injection Rate #	cm <sup>3</sup> /s	174	211	251	102	125	152	127	157	190	118	143	170	174	211	251
Plasticizing Rate #	g/s	34.4	41.6	49.5	20.0	25.1	30.4	25.2	31.5	38.1	23.5	28.4	33.7	34.4	41.6	49.5
Screw Stroke	mm	202			180			180			202			202		
Injection Pressure	Bar	2253	1862	1564	2003	1623	1341	2069	1676	1385	2147	1775	1491	2253	1862	1564
Screw RPM	-	294			206			258			200			294		
<b>Clamping Unit</b>																
Clamping Force	kN	1600			2200			2200			2200			2200		
Mold Opening Stroke	mm	450			480			480			480			480		
Dist Bet. Tie Bars, H x V	mm	470 x 470			535 x 535			535 x 535			535 x 535			535 x 535		
Mold Thickness, min/max.	mm	160 - 500			200 - 550			200 - 550			200 - 550			200 - 550		
Max. Daylight	mm	950			1030			1030			1030			1030		
Platen Dimensions, H x V	mm	715 x 715			760 x 760			760 x 760			760 x 760			760 x 760		
Ejector Stroke	mm	122			125			125			125			125		
Ejector Force	kN	49.9			47.5			49.1			47.5			49.9		
Ejector Number		5			9			9			9			9		
<b>General Data</b>																
Pump Drive	kW	28.3 (19.2)			12 (8.2)			18.2 (12.4)			18.2 (12.4)			28.3 (19.2)		
Installed Heating Capacity	kW	15.9			13.75			13.75			15.9			15.9		
Total Connected Power	kW	44.20 (35.10)			25.75 (21.95)			31.95 (26.15)			34.10 (28.30)			44.20 (35.10)		
Machine Dimensions (LxWxH)	M	4.8 x 1.8 x 2.0			5.6 x 1.9 x 2.1			5.6 x 1.9 x 2.1			5.6 x 1.9 x 2.1			5.6 x 1.9 x 2.1		
Oil Tank Capacity	lit	300			400			400			400			400		
Net Weight (without Oil)	t	6.7			7.7			7.7			7.8			7.8		

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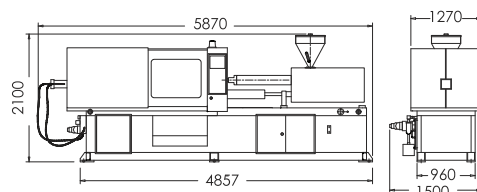
## Futura 220

### Platen Dimensions

Moving platen



### Machine Dimensions

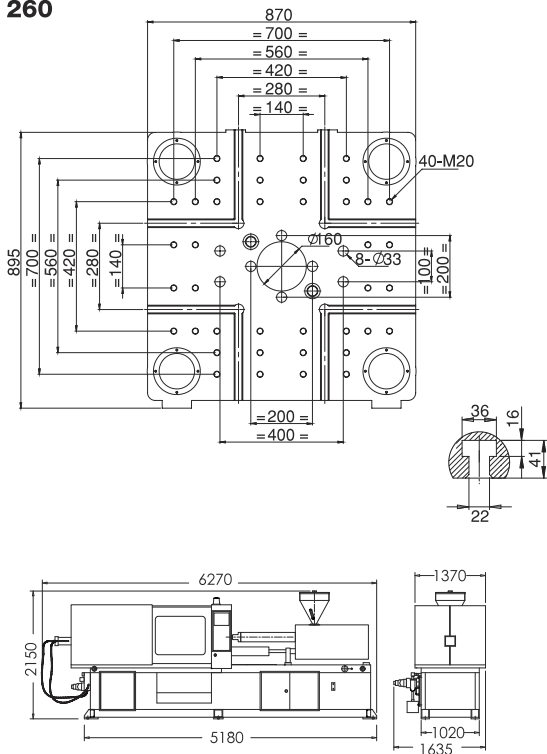


# "FUTURA" SERIES INJECTION MOLDING MACHINES - TECHNICAL SPECIFICATIONS

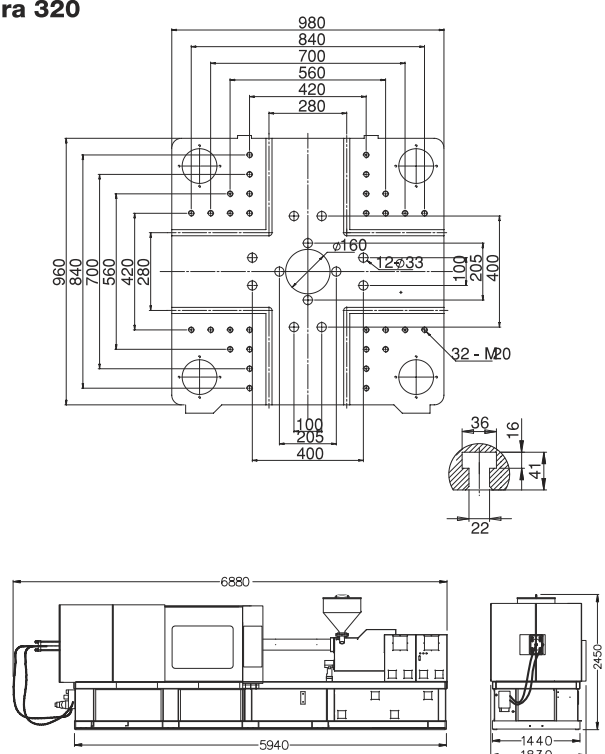
Fu 220-972-32			Fu 260-851-22			Fu 260-893-32			Fu 260-972-32			Fu 260-972-39			Fu 260-1395-39			Fu 260-1440-48			Fu 320-972-32					
2200H-972			2600H-851			2600H-893			2600H-972			2600H-972			2600H-1395			2600H-1440			3200H-972					
972			851			893			972			972			1395			1440			972					
A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
55	60	67	50	55	60	50	55	60	55	60	67	55	60	67	62	67	72	62	67	72	55	60	67	21	19	17
21	19	17	21	19	17	21	19	17	21	19	17	21	19	17	22.7	21	19.5	22.7	21	19.5	539	642	800	21	19	17
539	642	800	396	480	571	396	480	571	539	642	800	539	642	800	836	976	1127	836	976	1127	539	642	800	539	642	800
512	609	760	377	456	542	377	456	542	512	609	760	512	609	760	794	927	1071	794	927	1071	512	609	760	512	609	760
211	251	313	118	143	170	174	211	251	211	251	313	252	300	374	272	318	367	340	398	459	211	251	313	211	251	313
40.0	47.6	55.9	23.5	28.4	33.7	34.4	41.6	49.5	40.0	47.6	55.9	47.7	56.8	66.7	43.4	50.6	58.4	54.2	63.3	73.0	40.0	47.6	55.9	40.0	47.6	55.9
227	202	202	227	202	202	227	202	202	227	202	202	227	202	202	227	202	202	227	202	202	227	202	202			
1804	1516	1215	2147	1775	1491	2253	1862	1564	1804	1516	1215	1804	1516	1215	1669	1429	1238	1723	1476	1278	1804	1516	1215	1804	1516	1215
243	200	200	243	200	200	243	200	200	243	200	200	243	200	200	243	200	200	243	200	200	243	200	200			
2200	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	2600	3200	640	670x650			
480	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	550	640	670x650	250-660			
535 x 535	580 x 580	580 x 580	580 x 580	580 x 580	580 x 580	580 x 580	580 x 580	580 x 580	580 x 580	580 x 580	580 x 580	580 x 580	580 x 580	580 x 580	580 x 580	580 x 580	580 x 580	580 x 580	580 x 580	580 x 580	250-660	1300	980x960			
200-550	200-600	200-600	200-600	200-600	200-600	200-600	200-600	200-600	200-600	200-600	200-600	200-600	200-600	200-600	200-600	200-600	200-600	200-600	200-600	200-600	250-660	1300	980x960			
1030	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1300	980x960	1300			
760 x 760	870 x 870	870 x 870	870 x 870	870 x 870	870 x 870	870 x 870	870 x 870	870 x 870	870 x 870	870 x 870	870 x 870	870 x 870	870 x 870	870 x 870	870 x 870	870 x 870	870 x 870	870 x 870	870 x 870	870 x 870	1300	980x960	1300			
125	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167			
48.3	67.3	70.7	68.4	68.4	68.4	68.4	68.4	68.4	68.4	68.4	68.4	68.4	68.4	68.4	68.4	68.4	68.4	68.4	68.4	68.4	68.4	68.4	68.4			
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	13	13	13			
28.3(19.2)	18.2(12.4)	28.3(19.2)	28.3(19.2)	36.7(24.9)	36.7(24.9)	44.0(29.9)	28.3(19.2)	18.43	18.43	18.43	18.43	21.33	21.33	21.33	21.33	21.33	21.33	21.33	21.33	21.33	28.3(19.2)	18.43	18.43			
18.43	15.9	15.9	15.9	18.43	18.43	21.33	18.43	18.43	18.43	18.43	18.43	18.43	18.43	18.43	18.43	18.43	18.43	18.43	18.43	18.43	18.43	18.43	18.43	18.43		
46.73(37.63)	34.10(28.30)	44.20(35.10)	46.73(37.63)	55.13(37.63)	58.03(46.23)	65.33(51.23)	46.73(37.63)	46.73(37.63)	46.73(37.63)	46.73(37.63)	46.73(37.63)	46.73(37.63)	46.73(37.63)	46.73(37.63)	46.73(37.63)	46.73(37.63)	46.73(37.63)	46.73(37.63)	46.73(37.63)	46.73(37.63)	46.73(37.63)	46.73(37.63)	46.73(37.63)			
5.6 x 1.9 x 2.1	6.1 x 2.1 x 2.2	6.1 x 2.1 x 2.2	6.1 x 2.1 x 2.2	6.1 x 2.1 x 2.2	6.1 x 2.1 x 2.2	6.1 x 2.1 x 2.2	6.1 x 2.1 x 2.2	6.1 x 2.1 x 2.2	6.1 x 2.1 x 2.2	6.1 x 2.1 x 2.2	6.1 x 2.1 x 2.2	6.1 x 2.1 x 2.2	6.1 x 2.1 x 2.2	6.1 x 2.1 x 2.2	6.1 x 2.1 x 2.2	6.1 x 2.1 x 2.2	6.1 x 2.1 x 2.2	6.1 x 2.1 x 2.2	6.1 x 2.1 x 2.2	6.1 x 2.1 x 2.2	6.9 x 1.6 x 2.5	6.9 x 1.6 x 2.5	6.9 x 1.6 x 2.5			
400	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	600	600	600			
7.9	9.2	9.2	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3	11.3	11.3	11.3			

NOTE : #Achieved in air injection. \*Theoretical value; actual value may vary depending on material, melt density & residence time. Specifications are subject to change due to continuous improvements.

**Futura 260**



**Futura 320**



# "FUTURA" SERIES INJECTION MOLDING MACHINES - TECHNICAL SPECIFICATIONS

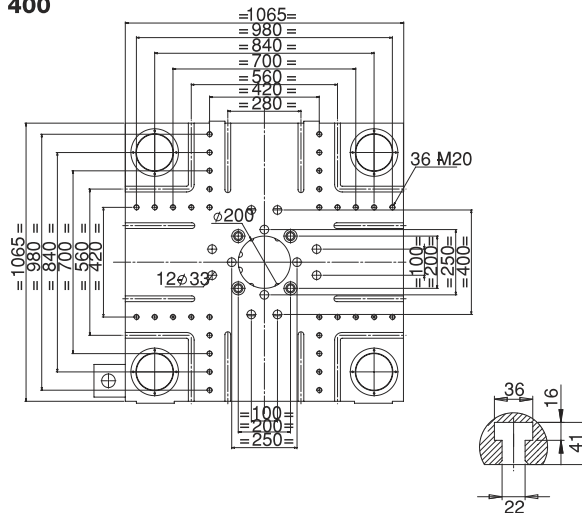
MODEL		Fu 320-1395-39	Fu 320-1440-48	Fu 320-2365-48	Fu 320-2441-55	Fu 400-1395-39
International code		3200H-1395	3200H-1440	3200H-2365	3200H-2441	4000H-1395
Injection unit number		1395	1440	2365	2441	1395
<b>Injection Unit</b>		A B C	A B C	A B C	A B C	A B C
Screw Diameter	mm	62 67 72	62 67 72	70 75 80	70 75 80	62 67 72
Screw Length	L/D	22.7 21 19.5	22.7 21 19.5	21.4 20 18.8	21.4 20 18.8	22.7 21 19.5
Stroke Volume	cm <sup>3</sup>	836 976 1127	836 976 1127	1396 1603 1824	1396 1603 1824	836 976 1127
Injection Weight max. (PS)**	g	794 927 1071	794 927 1071	1326 1523 1733	1326 1523 1733	794 927 1071
Injection Rate #	cm <sup>3</sup> /s	272 318 367	340 398 459	336 385 438	381 438 498	272 318 367
Plasticizing Rate #	g/s	43.4 50.6 58.4	54.2 63.3 73.0	60.0 64.5 68.9	68.0 73.0 78.0	43.4 50.6 58.4
Screw Stroke	mm	277	277	363	363	277
Injection Pressure	Bar	1669 1429 1238	1723 1476 1278	1694 1476 1297	1749 1523 1339	1669 1429 1238
Screw RPM	-	156	195	166	188	156
<b>Clamping Unit</b>						
Clamping Force	kN	3200	3200	3200	3200	4000
Mold Opening Stroke	mm	640	640	640	640	700
Dist Bet. Tie Bars, H x V	mm	670x650	670x650	670x650	670x650	720 x 720
Mold Thickness, min/max.	mm	250 - 660	250 - 660	250 - 660	250 - 660	220 - 730
Max. Daylight	mm	1300	1300	1300	1300	1430
Platen Dimensions, H x V	mm	980x960	980x960	980x960	980x960	1065 x 1065
Ejector Stroke	mm	167	167	167	167	180
Ejector Force	kN	68.4	70.7	68.4	70.7	121.7
Ejector Number		13	13	13	13	13
<b>General Data</b>						
Pump Drive	kW	36.7 (24.9)	44.0 (29.9)	44.0 (29.9)	67.0 (45.50)	36.7 (24.9)
Installed Heating Capacity	kW	21.33	21.33	21	21	21.33
Total Connected Power	kW	58.03 (46.23)	65.33 (51.23)	65.00 (50.90)	88.00 (66.50)	58.03 (46.23)
Machine Dimensions (LxWxH)	M	6.9 x 1.6 x 2.5	6.9 x 1.6 x 2.5	6.9 x 1.6 x 2.5	6.9 x 1.6 x 2.5	7.5 x 1.6 x 2.31
Oil Tank Capacity	lit	600	600	600	600	720
Net Weight (without Oil)	t	11.5	11.5	11.8	11.8	16.2

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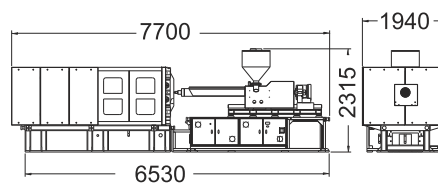
## Futura 400

### Platen Dimensions

Moving platen



### Machine Dimensions



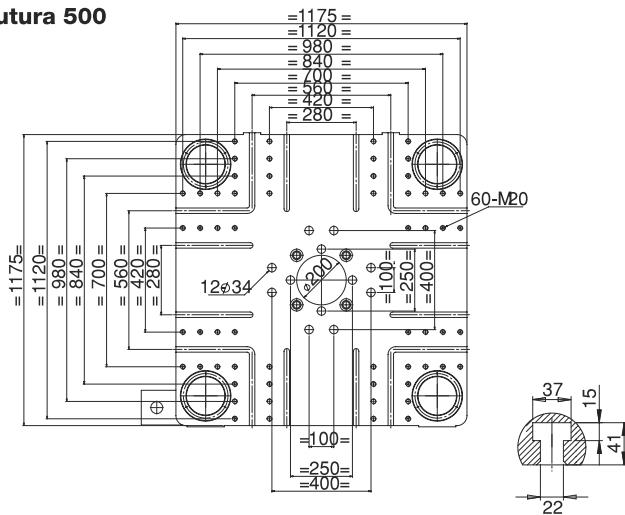


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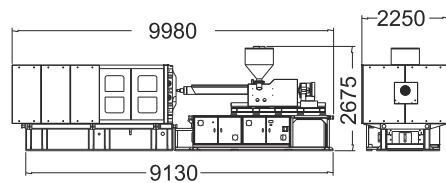
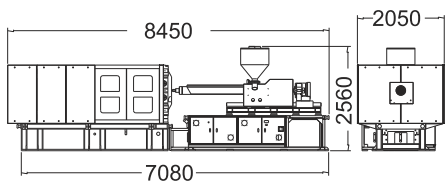
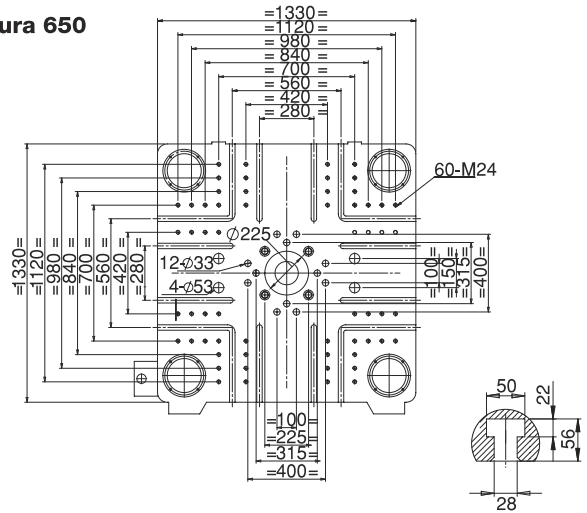
Fu 400-1440-48			Fu 400-2365-48			Fu 400-2441-55			Fu 400-3190-55			Fu 400-3293-68			Fu 500-2365-48			Fu 500-2441-55			Fu 500-3190-55					
4000H-1440			4000H-2365			4000H-2441			4000H-3190			4000H-3293			5000H-2365			5000H-2441			5000H-3190					
1440			2365			2441			3190			3293			2365			2441			3190					
A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
62	67	72	70	75	80	70	75	80	75	80	85	75	80	85	70	75	80	70	75	80	75	80	85	75	80	85
22.7	21	19.5	21.4	20	18.8	21.4	20	18.8	23.5	22	20.7	23.5	22	20.7	21.4	20	18.8	21.4	20	18.8	23.5	22	20.7	23.5	22	20.7
836	976	1127	1396	1603	1824	1396	1603	1824	1766	2010	2269	1766	2010	2269	1396	1603	1824	1396	1603	1824	1766	2010	2269	1766	2010	2269
794	927	1071	1326	1523	1733	1326	1523	1733	1678	1909	2155	1678	1909	2155	1326	1523	1733	1326	1523	1733	1678	1909	2155	1678	1909	2155
340	398	459	336	385	438	381	438	498	358	407	459	444	505	570	336	385	438	381	438	498	358	407	459	444	505	570
54.2	63.3	73.0	60.0	64.5	68.9	68.0	73.0	78.0	53.0	56.2	60.1	67.0	71.0	76.0	60.0	64.5	68.9	68.0	73.0	78.0	53.0	56.2	60.1	67.0	71.0	76.0
277			363			363			400			400			363			363			400					
1723	1476	1278	1694	1476	1297	1749	1523	1339	1806	1588	1406	1865	1639	1452	1694	1476	1297	1749	1523	1339	1806	1588	1406	1865	1639	1452
195			166			188			136			169			166			188			136					
4000			4000			4000			4000			4000			5000			5000			5000					
700			700			700			700			700			770			770			770					
720 x 720			720 x 720			720 x 720			720 x 720			720 x 720			800 x 800			800 x 800			800 x 800					
220 - 730			220 - 730			220 - 730			220 - 730			220 - 730			250 - 800			250 - 800			250 - 800					
1430			1430			1430			1430			1430			1570			1570			1570					
1065 x 1065			1065 x 1065			1065 x 1065			1065 x 1065			1065 x 1065			1175 x 1175			1175 x 1175			1175 x 1175					
180			180			180			180			180			231			231			231					
125.6			121.7			125.6			121.7			125.6			147.2			152.0			147.2					
13			13			13			13			13			13			13			13					
44.0(29.9)			44.0(29.9)			67.0(45.50)			67.0(45.5)			67.0(45.5)			44.0(29.9)			67.0(45.50)			67.0(45.5)					
21.33			21			21			30			30			21			21			30					
65.33(51.23)			65.00(50.90)			88.00(66.50)			97.00(75.50)			97.00(75.50)			65.00(50.90)			88.00(66.50)			97.00(75.50)					
7.5 x 1.6 x 2.31			7.5 x 1.6 x 2.31			7.5 x 1.6 x 2.31			7.5 x 1.6 x 2.31			7.5 x 1.6 x 2.31			8.4 x 1.77 x 2.56			8.4 x 1.77 x 2.56			8.4 x 1.77 x 2.56					
720			720			720			720			720			900			900			900					
16.2			16.5			16.5			17			17			19.8			19.8			20.3					

NOTE : #Achieved in air injection. \*Theoretical value; actual value may vary depending on material, melt density & residence time. Specifications are subject to change due to continuous improvements.

**Futura 500**



**Futura 650**



## "FUTURA" SERIES INJECTION MOLDING MACHINES - TECHNICAL SPECIFICATIONS

MODEL		Fu 500-3293-68			Fu 500-5011-97			Fu 500-6645-97	Fu 650-3293-68			Fu 650-5011-97		
International code		5000H-3293			5000H-5011			5000H-6645	6500H-3293			6500H-5011		
Injection unit number		3293			5011			6645	3293			5011		
Injection Unit		A	B	C	A	B	C	D	A	B	C	A	B	C
Screw Diameter	mm	75	80	85	80	90	100	110	75	80	85	80	90	100
Screw Length	L/D	23.5	22	20.7	24.8	22	19.8	22	23.5	22	20.7	24.8	22	19.8
Stroke Volume	cm <sup>3</sup>	1766	2010	2269	2386	3020	3729	4512	1766	2010	2269	2386	3020	3729
Injection Weight max. (PS)**	g	1678	1909	2155	2267	2869	3542	4286	1678	1909	2155	2267	2869	3542
Injection Rate #	cm <sup>3</sup> /s	444	505	570	524	663	818	896	444	505	570	524	663	818
Plasticizing Rate #	g/s	67.0	71.0	76.0	72.5	91.8	113.2	140.0	67.0	71.0	76.0	72.5	91.8	113.2
Screw Stroke	mm	400			475			475	400			475		
Injection Pressure	Bar	1865	1639	1452	2100	1659	1344	1473	1865	1639	1452	2100	1659	1344
Screw RPM	-	169			144			144	169			144		
Clamping Unit														
Clamping Force	kN	5000			5000			5000	6500			6500		
Mold Opening Stroke	mm	770			770			770	900			900		
Dist Bet. Tie Bars, H x V	mm	800 x 800			800 x 800			800 x 800	900 x 900			900 x 900		
Mold Thickness, min/max.	mm	250 - 800			250 - 800			250 - 800	320 - 900			320 - 900		
Max. Daylight	mm	1570			1570			1570	1800			1800		
Platen Dimensions, H x V	mm	1175 x 1175			1175 x 1175			1175 x 1175	1330 x 1330			1330 x 1330		
Ejector Stroke	mm	231			231			231	250			250		
Ejector Force	kN	152.0			142.5			142.5	180.9			169.6		
Ejector Number		13			13			13	17			17		
General Data														
Pump Drive	kW	67.0 (45.5)			88.0 (59.8)			88.0 (59.8)	67.0 (45.5)			88.0 (59.8)		
Installed Heating Capacity	kW	30			38.97			56.60	30			38.97		
Total Connected Power	kW	97.00 (75.50)			126.97 (98.77)			144.6 (116.4)	97.00 (75.50)			126.97 (98.77)		
Machine Dimensions (LxWxH)	M	8.4 x 1.77 x 2.56			8.4 x 1.77 x 2.56			9.16 x 2.07 x 2.98	9.16 x 2.07 x 2.98			9.16 x 2.07 x 2.98		
Oil Tank Capacity	lit	900			900			1300	1300			1300		
Net Weight (without Oil)	t	20.3			21.3			28.5	27.5			28.5		

NOTE : #Achieved in air injection. \*Theoretical value; actual value may vary depending on material, melt density & residence time. Specifications are subject to change due to continuous improvements.

### Futura Series: Clamping force: 600 - 6500kN

"Futura" series machine is characterized by:

- Enhanced overall injection molding efficiency levels to a great extent.
- It is driven by the most energy efficient servo mechanism resulting in highest energy savings, consistent, repeatable & smoother machine performance.
- About 20 to 60% energy saving compared to a conventional hydraulic machine.

### CLAMP

- Sturdy and optimized five-point double toggle system, known for its quick mold open and close movements along with its good mold safety characteristics; is one of the most preferred clamping mechanism in the world.
- Moving platen supported on machine base with adjustable sliding shoes.
- Self-lubricating bushes for toggle mechanism.
- Automatic, motorized mold height / thickness adjustment through Sun and planetary gear mechanism.

- Advanced, progressive type auto grease lubrication with pressure switch feedback & low level sensor.
- Wear resistant stainless steel supporting tracks for moving platen.
- Hard chrome plated, high tensile steel tie bars.
- Stress-relieved sturdy machine base frame.
- Closing and opening speeds, pressures and positions independently settable. Each programmable in 05 stages.
- Linear position transducer for accurate clamp position control.

### EJECTOR

- Central hydraulic ejector with multiple stroke feature. Speed, pressure and position independently settable in both directions.
- Pulsating as well as Ejector Hold/ Stay forward function.
- Linear transducer for accurate ejector position control.
- Multi point ejector plate for uniform force distribution provided with multiple ejector rods.



## INJECTION

- Wide choice of injection units with A/B/C screw/barrel combinations.
- Injection speed and pressure profile programmable in 06, position dependent stages.
- Follow up/hold on pressure profile programmable in 05, time dependent stages.
- Screw speed control profile programmable in 05, position dependent stages.
- Strong & balanced twin cylinder injection unit distributes the load/pressure equally along the screw centerline.
- High torque, low speed direct hydraulic screw drive.
- Proven screw geometry for optimum plasticizing capacities with excellent melt homogeneity.
- Back pressure through controller with profile programmable in position dependent stages.
- Fitted with nitrided screw and nitrided barrel, non-return valve and barrel closure assembly with open nozzle suitable for various thermoplastics.
- Delay feature for commencement of plasticizing to aid processing of engineering plastics.
- Monitoring of melt cushion during the follow-up / hold-on pressure phase.
- Switch over from fill to pack based on position or time.
- Linear position transducer for accurate injection position control.
- Suitable capacity material hopper with easy sliding arrangement.

Important parameters as well as hourly production data monitoring.

Built-in Energy management with live display of voltage, current & energy.

Live display of instantaneous power with per hour energy monitoring for last 30 days.

Shot (molding) counter pre-selection with automatic switch off feature.

Fault diagnostics in the event of machine malfunction or operator error with plain text messages and recording of source of error.

Regulated power supply 24VDC for controls and actuators.

I/O diagnosis - analog & digital. HYDRAULICS

Highly energy efficient hydraulic drive system with gear pump & servo motor.

Ergonomically designed easy to access and easy to service hydraulic circuit layout.

Fast responding hydraulic door safety inter lock.

Large capacity heat exchanger for hydraulic oil cooling.

Core pulling control set for hydraulic cores independently programmable.

All hydraulic manifolds and valves mounted close to the actuators for faster response.

Energy saving "pump switch off feature" in case of idle running.

## TEMPERATURE CONTROL

- 4 / 5 self-optimizing temperature control zones / circuits with ceramic heating bands for the barrel and nozzle flange heating system.
- PID controlled barrel heater bands, with solid state relays and fast blowing semi conductor fuses for barrel heating system.
- Adjustable high / low tolerance band for monitoring with alarm for deviation from set point.
- Operating temperature range of up to 450°C.
- Thermo couple break down alarm.

## CONTROLS

Intelligent operator-machine interface with large TFT, multi-color display, with alpha numeric keyboard.

Actual position measuring / indicating system for moving platen, screw travel and ejector.

Overview screen with live display for machine operations.

Continuous process control via monitoring of important process parameters with selectable tolerance band.

Data storage on USB.

Internal storage of up to 200 sets of mold data.

Fu 650D-5906-97	Fu 650D-6645-97
6500H-5906	6500H-6645
5906	6645
D	D
110	110
22	22
4512	4512
4286	4286
896	896
140.0	140.0
475	475
1309	1473
144	144
6500	6500
900	900
900 x 900	900 x 900
320 - 900	320 - 900
1800	1800
1330 x 1330	1330 x 1330
250	250
180.9	180.9
17	17
88.0 (59.8)	88.0 (59.8)
56.60	56.60
144.6 (116.4)	144.6 (116.4)
9.16 x 2.07 x 2.98	9.16 x 2.07 x 2.98
1300	1300
28.5	28.5



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