FERROMATIK MILACRON
India

Technology for Productivity

Ω OMEGA SERVO

Hydraulic Injection Moulding Machine
80 to 910 Ton



The ROBUST Performer



- Energy Efficient
- Generous Specifications
- Robust & Reliable
- User Friendly Control

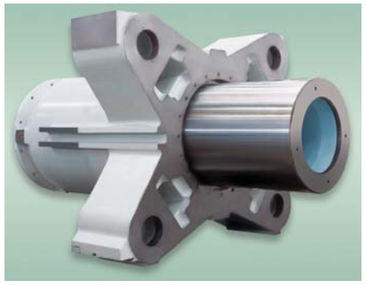
One Dream... GO green

OMEGA SERVO

Hydraulic Injection Moulding Machine

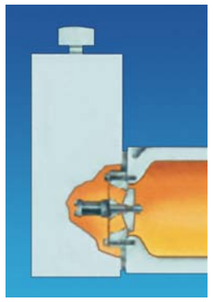
The ROBUST Performer

FERROMATIK MILACRON India



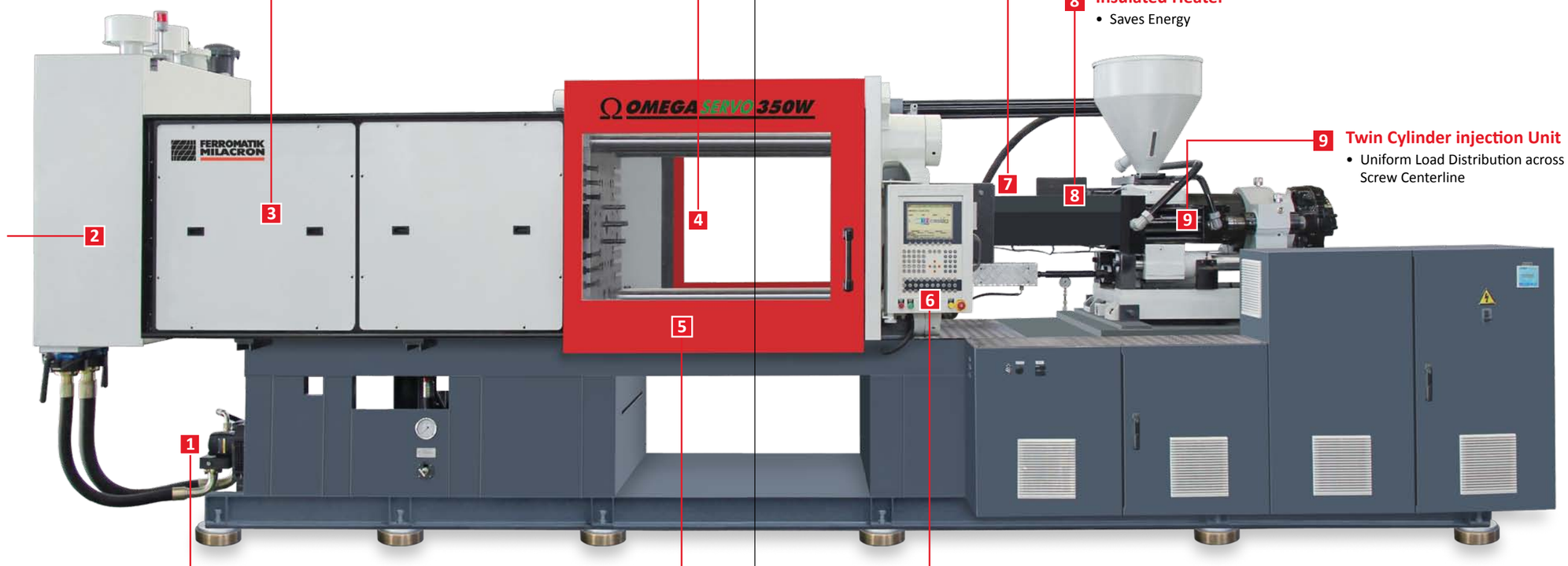
3 Large Ram Diameter

- Provides Uniform Force Distribution across Platen
- Provides Excellent Mould Squareness & Parallelism
- Reduces Mould Wear



2 Unique Prefill Cylinder Design

- Fast Tonnage Built-up Time



4 Generous Mould Space

- Accommodates Large Moulds

7 Closed Loop PID Temperature Control

- Provides Precise Temperature Control
- Excellent Process Control & Stability

8 Insulated Heater

- Saves Energy

9 Twin Cylinder injection Unit

- Uniform Load Distribution across Screw Centerline

1 Servo Motor & Drive

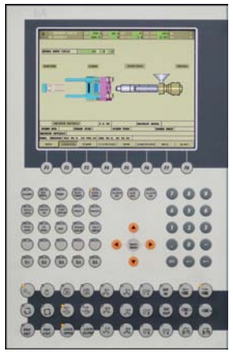
- Outstanding Energy Saving
- Faster Response towards Hydraulic System
- Excellent Shot Weight Consistency
- Reduced Noise Level





5 Wide Skates for Platen Supports

- Reduced Platen Deflection
- Enhanced Life of Tie-bars
- Higher Mould Carrying Capacity



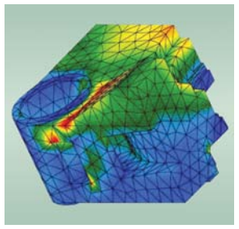
6 Endura-II - Advanced User Friendly Control

- Ergonomic Layout
- High Speed Microprocessor
- Direct Access Menu Keys
- Graphical Presentation of Machine Features
- Self Diagnostic & Fault Finding Capability
- Parameter Entry in Absolute Value
- Central Monitoring System
- Statistical Process Control (SPC)

OMEGA SERVO

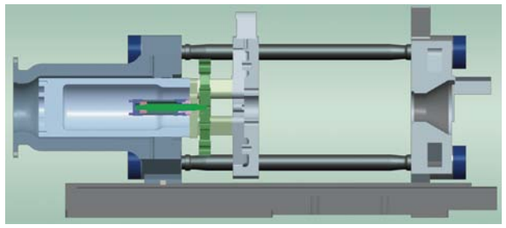
Hydraulic Injection Moulding Machine

OMEGA SERVO is a Fully Hydraulic Direct Locking Ram Type Machine.



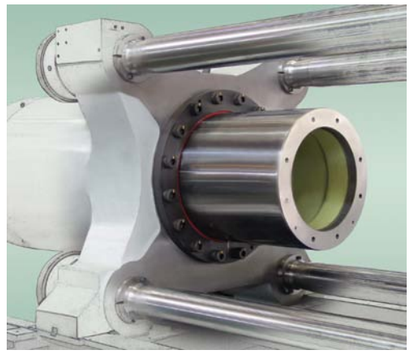
Finite Element Analysis (FEA) for Machine Components

- Provides Maximum Strength to Weight Ratio



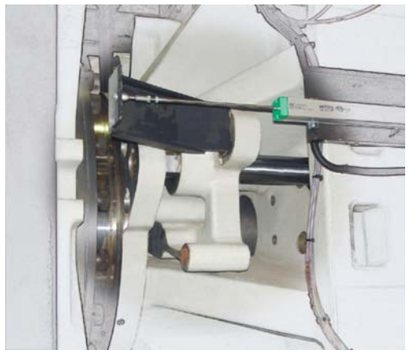
Hollow Headless Ram

- Minimized Friction - Faster Clamp Movement



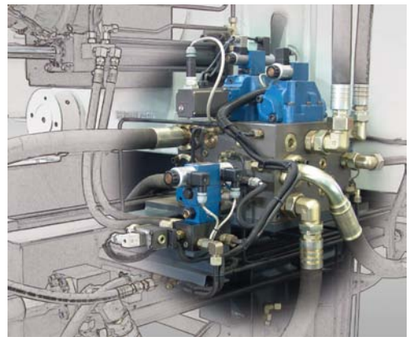
Mono Seal & No Piston Rings

- Long Life of Sealing System
- Ease of Maintenance



Fully Guided Knock Out Bar

- Provides Multi Point Ejection & Even Ejection Force



Hydraulic Valves Mounted Close to Actuators

- Fast Response From Actuator to Control Unit

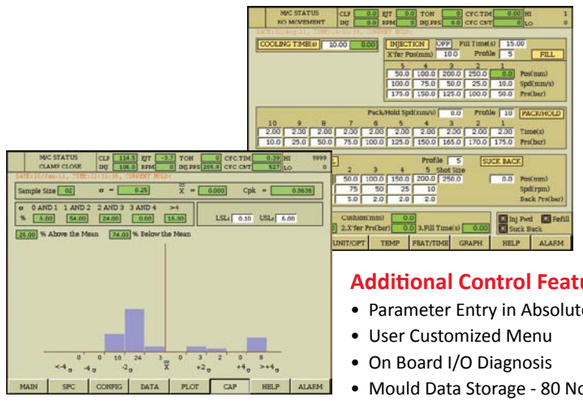
More Use of Hoses

- Quieter Machine Operation



Cartridge Valves

- Smooth Operations
- Low Energy Dissipation



Additional Control Features

- Parameter Entry in Absolute Values
- User Customized Menu
- On Board I/O Diagnosis
- Mould Data Storage - 80 Nos.

FERROMATIK MILACRON India

Servo Motor
The New Edge Technology

Energy Saving Upto 50%

Replacement of Standard Induction Motor with Servo Motor

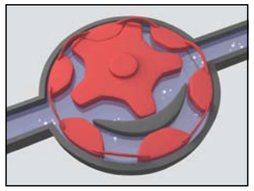
Reduced Heat Generation

- Only delivers hydraulic oil as it is needed
- Reduces heat generation in hydraulic oil
- Results in longer life for hydraulic components & enhanced oil life
- Heat load on factory & cooling water consumption is reduced
- Influence of oil temperature on machine repeatability is reduced
- Improves cycle precision & repeatability

Servo Motor

- Improved repeatability
  - Closed loop system
- Reduced energy consumption
  - Servo motor rpm can vary from 0 to 3000
- Increased accuracy & precision
  - Rotation can be controlled to a fraction of a degree
- High response
  - Reduced system inertia
- Noise reduction
  - Quiet gear pump
  - Variable speed operations when required

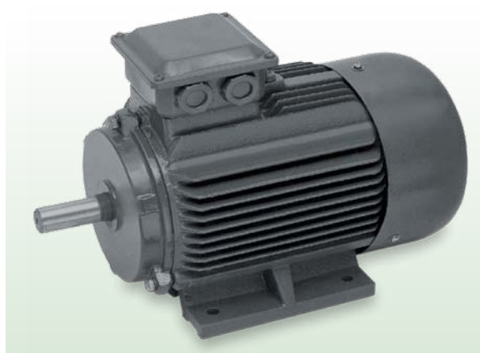
Internal Gear Pump



- Reduced sensitivity to contamination
- Increased reliability & lower maintenance costs
  - Only 2 moving parts
  - No internal wear parts
  - Lower cost spare parts
- Bidirectional pump for fast response in pressure control
- Pump is stopped intermittently during the cycle
- Constant & non-pulsating discharge regardless of pressure conditions
- Low operating noise



Servo Motor
(3 Phase Synchronous Motor with Permanent Magnets)



Standard Induction Motor
(3 Phase Asynchronous Motor)

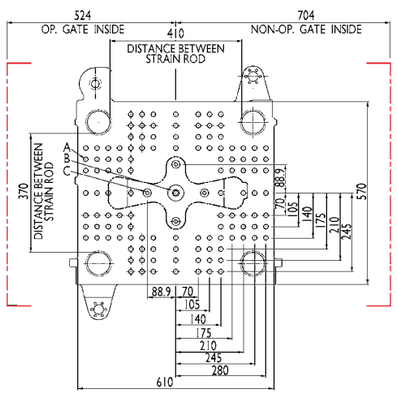
OMEGA SERVO

Hydraulic Injection Moulding Machine

Technical Specifications

MODEL		OMEGA SERVO 80 W						OMEGA SERVO 100 W					
INTERNATIONAL SIZE		800 - 140			800 - 220			1000 - 220			1000 - 430		
POWER PACK *		11.5 KW			11.5 KW			11.5 KW			11.5 KW		
INJECTION UNIT	UNIT	28 MM FRAME			32 MM FRAME			32 MM FRAME			40 MM FRAME		
		A	B	C	A	B	C	A	B	C	A	B	C
INJECTION CAPACITY MAX. (GPPS)	gm	64	84	107	99	126	171	99	126	171	215	272	336
THEORETICAL DISPLACEMENT	cc	68	88	112	105	132	180	105	132	180	226	286	353
INJECTION PRESSURE	bar	2068	1584	1251	2074	1639	1204	2074	1639	1204	1901	1502	1217
INJECTION RATE	cc/sec	107	140	177	105	133	181	122	154	210	143	181	224
INJECTION SCREW STROKE	mm	110	110	110	130	130	130	130	130	130	180	180	180
SCREW DIAMETER	mm	28	32	36	32	36	42	32	36	42	40	45	50
SCREW L/D RATIO		23	20	17.7	22.6	20	17	22.6	20	17	22.5	20	18
SCREW SPEED	rpm	400	400	400	300	300	300	300	300	300	279	279	279
SCREW TORQUE @ 172 BAR	Nm	425	425	425	665	665	665	665	665	665	876	876	876
PLASTICIZING RATE (GPPS)	gm/sec	13	17	22	11	14	21	11	14	21	18	24	33
PLASTICIZING RATE (BARRIER SCREW)	gm/sec	–	–	29	–	19	25	–	19	25	21	30	40
NO. OF PYROMETER (BARREL+NOZZLE)		3+1			3+1			3+1			3+1		
TOTAL HEAT CAPACITY	kW	6.4			7.3			7.3			13.2		
CLAMP UNIT													
CLAMP FORCE	ton	80			80			100			100		
CLAMP STROKE	mm	500			500			560			560		
MAXIMUM DAYLIGHT	mm	700			700			760			760		
MINIMUM MOULD HEIGHT	mm	200			200			200			200		
PLATEN SIZE (H x V)	mm	610 x 570			610 x 570			610 x 610			610 x 610		
DISTANCE BETWEEN TIE ROD	mm	410 x 370			410 x 370			410 x 410			410 x 410		
TIE ROD DIAMETER	mm	70			70			70			70		
EJECTOR STROKE	mm	125			125			125			125		
EJECTOR FORCE	ton	3.0			3.0			4.5			4.5		
MOULD WEIGHT CAPACITY	kg	500			500			700			700		
GENERAL													
SERVO DRIVE *	kW	11.5			11.5			11.5			11.5		
TOTAL OIL TANK CAPACITY	ltr	280			280			315			315		
WATER REQUIREMENT (Inlet temp. 29°C)	lpm	80			80			80			80		
CONNECTED LOAD	kW	17.9			18.8			18.8			24.7		
MACHINE DIMENSION (L x W x H)	m	4.23 x 1.40 x 1.98			4.26 x 1.40 x 1.98			4.76 x 1.43 x 2.04			4.87 x 1.43 x 2.03		
MACHINE WEIGHT	kg	3600			3800			4350			4650		

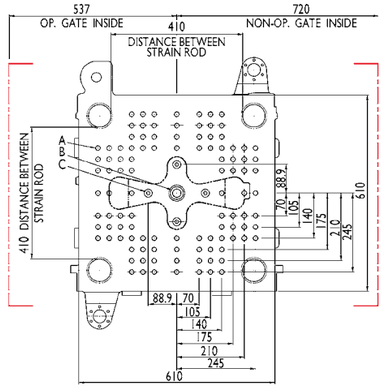
** Under Specified Condition*



OMEGA SERVO 80 W

A M16x32 DEEP (120 HOLES ON MOVING PLATEN)
M16x32 DEEP (122 HOLES ON STATIONARY PLATEN)
B MOVING PLATEN : Ø 50.0 THRU BORE K/O BAR CENTER HOLE M16 THRU
STATIONARY PLATEN : Ø 100.0 (+0.035/0.00) WITH LOCATING RING,
Ø 125.0 (+0.040/0.00) WITHOUT LOCATING RING
C Ø 27.0 THRU, (4) HOLES & K/O BAR HOLES M12 THRU (4) NOS

ALL DIMENSIONS ARE IN MM



OMEGA SERVO 100 W

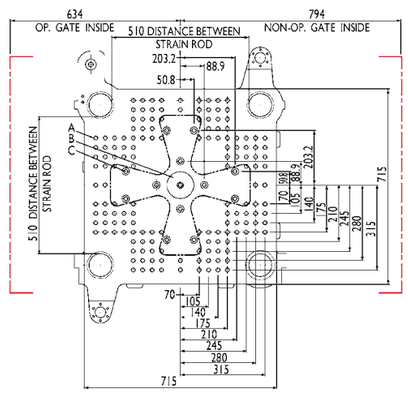
A M16x40 DEEP (106 HOLES ON MOVING PLATEN)
M16x40 DEEP (108 HOLES ON STATIONARY PLATEN)
B MOVING PLATEN : Ø 50.0 THRU BORE K/O BAR CENTER HOLE M16 THRU
STATIONARY PLATEN : Ø 100.0 (+0.035/0.00) WITH LOCATING RING,
Ø 125.0 (+0.040/0.00) WITHOUT LOCATING RING
C Ø 27.0 THRU, (4) HOLES & K/O BAR HOLES M12 THRU (4) NOS

Technical Specifications

FERROMATIK MILACRON India

MODEL		OMEGA SERVO 150 W						OMEGA SERVO 200 W					
INTERNATIONAL SIZE		1500-430			1500-610			2000-610			2000-940		
POWER PACK *		13.6 KW			13.6 KW			13.6 KW			13.6 KW		
INJECTION UNIT	UNIT	40 MM FRAME			45 MM FRAME			45 MM FRAME			50 MM FRAME		
		A	B	C	A	B	C	A	B	C	A	B	C
INJECTION CAPACITY MAX. (GPPS)	gm	215	272	336	303	374	452	303	374	452	467	565	789
THEORETICAL DISPLACEMENT	cc	226	286	353	318	393	475	318	393	475	491	594	830
INJECTION PRESSURE	bar	1901	1502	1217	1900	1539	1272	1900	1539	1272	1900	1570	1124
INJECTION RATE	cc/sec	185	235	290	181	224	271	219	270	327	226	274	382
INJECTION SCREW STROKE	mm	180	180	180	200	200	200	200	200	200	250	250	250
SCREW DIAMETER	mm	40	45	50	45	50	55	45	50	55	50	55	65
SCREW L/D RATIO		22.5	20	18	22.2	20	18.2	22.2	20	18.2	22	20	16.9
SCREW SPEED	rpm	362	362	362	287	287	287	304	304	304	293	293	207
SCREW TORQUE @ 172 BAR	Nm	876	876	876	1080	1080	1080	1080	1080	1080	1305	1305	1852
PLASTICIZING RATE (GPPS)	gm/sec	23	32	43	25	34	44	26	36	47	35	45	50
PLASTICIZING RATE (BARRIER SCREW)	gm/sec	28	39	51	31	41	51	32	43	54	42	52	58
NO. OF PYROMETER (BARREL+NOZZLE)		3+1			3+1			3+1			3+1		
TOTAL HEAT CAPACITY	kW	13.2			15			15			19.6		
CLAMP UNIT													
CLAMP FORCE	ton	150			150			200			200		
CLAMP STROKE	mm	625			625			750			750		
MAXIMUM DAYLIGHT	mm	825			825			950			950		
MINIMUM MOULD HEIGHT	mm	200			200			200			200		
PLATEN SIZE (H x V)	mm	715 x 715			715 x 715			820 x 820			820 x 820		
DISTANCE BETWEEN TIE ROD	mm	510 x 510			510 x 510			560 x 560			560 x 560		
TIE ROD DIAMETER	mm	85			85			95			95		
EJECTOR STROKE	mm	160			160			160			160		
EJECTOR FORCE	ton	4.5			4.5			7.5			7.5		
MOULD WEIGHT CAPACITY	kg	1050			1050			1450			1450		
GENERAL													
SERVO DRIVE *	kW	13.6			13.6			13.6			13.6		
TOTAL OIL TANK CAPACITY	ltr	405			405			425			425		
WATER REQUIREMENT (Inlet temp. 29°C)	lpm	80			80			80			80		
CONNECTED LOAD	kW	26.8			28.6			28.6			33.2		
MACHINE DIMENSION (L x W x H)	m	5.31 x 1.60 x 2.25			5.37 x 1.60 x 2.25			5.75 x 1.70 x 2.42			6.05 x 1.70 x 2.42		
MACHINE WEIGHT	kg	7000			7500			10000			10700		

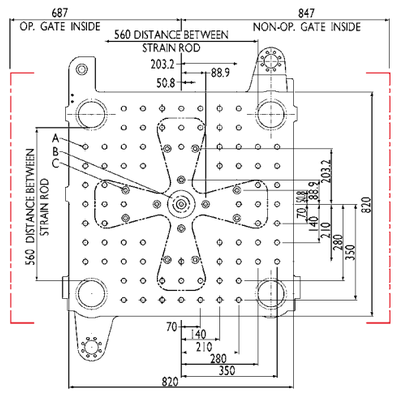
** Under Specified Condition*



OMEGA SERVO 150 W

A M16x40 DEEP (156 HOLES ON MOVING PLATEN)
M16x40 DEEP (176 HOLES ON STATIONARY PLATEN)
B MOVING PLATEN : Ø 100.0 THRU BORE K/O BAR CENTER HOLE M16X40 MM DEEP
STATIONARY PLATEN : Ø 125.0 (+0.04/0.00) WITH LOCATING RING,
Ø 160.0 (+0.04/0.00) WITHOUT LOCATING RING
C Ø 27.0 THRU, (12) HOLES & K/O BAR HOLES M16x40 DEEP (12) NOS

ALL DIMENSIONS ARE IN MM



OMEGA SERVO 200 W

A M20x50 DEEP (76 HOLES ON MOVING PLATEN)
M20x50 DEEP (84 HOLES ON STATIONARY PLATEN)
B MOVING PLATEN : Ø 100.0 THRU BORE K/O BAR CENTER HOLE M16X40 MM DEEP
STATIONARY PLATEN : Ø 125.0 (+0.04/0.00) WITH LOCATING RING,
Ø 160.0 (+0.04/0.00) WITHOUT LOCATING RING
C Ø 27.0 THRU, (12) HOLES & K/O BAR HOLES M16x40 DEEP (12) NOS

OMEGA SERVO

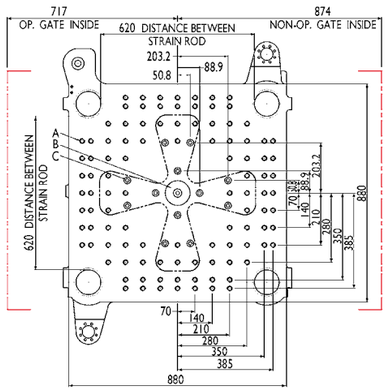
Hydraulic Injection Moulding Machine

Technical Specifications

MODEL		OMEGA SERVO 250 W						OMEGA SERVO 350 W					
INTERNATIONAL SIZE		2500 - 940			2500 - 1190			3500 - 1190			3500-2350		
POWER PACK *		13.6 KW			13.6 KW			25.1 KW			25.1 KW		
INJECTION UNIT	UNIT	50 MM FRAME			55 MM FRAME			55 MM FRAME			70 MM FRAME		
		A	B	C	A	B	C	A	B	C	A	B	C
INJECTION CAPACITY MAX. (GPPS)	gm	467	565	789	588	821	952	588	821	952	1172	1530	1937
THEORETICAL DISPLACEMENT	cc	491	594	830	618	863	1001	618	863	1001	1232	1608	2036
INJECTION PRESSURE	bar	1900	1570	1124	1918	1373	1184	1918	1373	1184	1909	1462	1155
INJECTION RATE	cc/sec	226	274	382	213	297	345	349	488	566	367	480	607
INJECTION SCREW STROKE	mm	250	250	250	260	260	260	260	260	260	320	320	320
SCREW DIAMETER	mm	50	55	65	55	65	70	55	65	70	70	80	90
SCREW L/D RATIO		22	20	16.9	23.6	20	18.6	23.6	20	18.6	22.9	20	17.8
SCREW SPEED	rpm	293	293	207	207	207	180	339	294	273	187	187	143
SCREW TORQUE @ 172 BAR	Nm	1305	1305	1852	1852	1852	2126	1852	1852	2126	3347	3347	4386
PLASTICIZING RATE (GPPS)	gm/sec	35	45	50	32	50	51	52	71	77	53	73	74
PLASTICIZING RATE (BARRIER SCREW)	gm/sec	42	52	58	37	58	62	60	83	95	65	88	89
NO. OF PYROMETER (BARREL+NOZZLE)		3+1			3+1			3+1			3+1		
TOTAL HEAT CAPACITY	kW	19.6			23.7			23.7			29.5		
CLAMP UNIT													
CLAMP FORCE	ton	250			250			350			350		
CLAMP STROKE	mm	830			830			1060			1060		
MAXIMUM DAYLIGHT	mm	1080			1080			1360/1660#			1360/1660#		
MINIMUM MOULD HEIGHT	mm	250			250			300/600#			300/600#		
PLATEN SIZE (H x V)	mm	880 x 880			880 x 880			1010 x 1010			1010 x 1010		
DISTANCE BETWEEN TIE ROD	mm	620 x 620			620 x 620			710 x 710			710 x 710		
TIE ROD DIAMETER	mm	100			100			125			125		
EJECTOR STROKE	mm	160			160			200			200		
EJECTOR FORCE	ton	7.5			7.5			7.5			7.5		
MOULD WEIGHT CAPACITY	kg	1680			1680			2900			2900		
GENERAL													
SERVO DRIVE *	kW	13.6			13.6			25.1			25.1		
TOTAL OIL TANK CAPACITY	ltr	655			655			905			905		
WATER REQUIREMENT (Inlet temp. 29°C)	lpm	130			130			130			130		
CONNECTED LOAD	kW	33.2			37.3			48.8			54.6		
MACHINE DIMENSION (L x W x H)	m	6.35 x 1.76 x 2.53			6.60 x 1.76 x 2.53			7.42 x 2.15 x 2.63			8.13 x 2.15 x 2.70		
MACHINE WEIGHT	kg	13200			13700			16550			17050		

** Under Specified Condition*

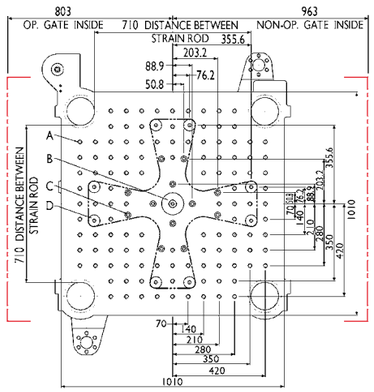
 # With Ram Spacer



OMEGA SERVO 250 W

ALL DIMENSIONS ARE IN MM

A M20x50 DEEP (104 HOLES ON MOVING PLATEN)
M20x50 DEEP (112 HOLES ON STATIONARY PLATEN)
B MOVING PLATEN : Ø 100.0 THRU BORE K/O BAR CENTER HOLE M16X40 MM DEEP
STATIONARY PLATEN : Ø 125.0 (+0.04/0.00) WITH LOCATING RING,
Ø 160.0 (+0.04/0.00) WITHOUT LOCATING RING
C Ø 27.0 THRU, (12) HOLES & K/O BAR HOLES M16x40 DEEP (12) NOS



OMEGA SERVO 350 W

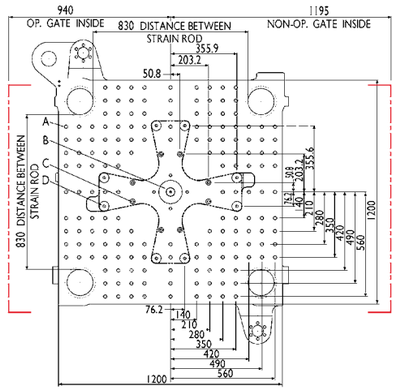
A M20x50 DEEP (116 HOLES ON MOVING PLATEN)
M20x50 DEEP (120 HOLES ON STATIONARY PLATEN)
B MOVING PLATEN : Ø 100.0 THRU BORE K/O BAR CENTER HOLE M16X40 MM DEEP
STATIONARY PLATEN : Ø 160.0 (+0.04/0.00) WITH LOCATING RING,
Ø 200.0 (+0.046/0.00) WITHOUT LOCATING RING
C Ø 27.0 THRU, (12) HOLES & K/O BAR HOLES M16x40 DEEP (20) NOS
D Ø 52.40 THRU, (8) HOLES

Technical Specifications

FERROMATIK MILACRON India

MODEL		OMEGA SERVO 450 W					
INTERNATIONAL SIZE		4500 - 2350			4500 - 3340		
POWER PACK *		27.2 KW			27.2 KW		
INJECTION UNIT	UNIT	70 MM FRAME			80 MM FRAME		
		A	B	C	A	B	C
INJECTION CAPACITY MAX. (GPPS)	gm	1172	1530	1937	1722	2179	2690
THEORETICAL DISPLACEMENT	cc	1232	1608	2036	1810	2290	2827
INJECTION PRESSURE	bar	1909	1462	1155	1843	1456	1180
INJECTION RATE	cc/sec	448	585	740	477	603	745
INJECTION SCREW STROKE	mm	320	320	320	360	360	360
SCREW DIAMETER	mm	70	80	90	80	90	100
SCREW L/D RATIO		22.9	20	17.8	22.5	20	18
SCREW SPEED	rpm	229	229	174	157	157	142
SCREW TORQUE @ 172 BAR	Nm	3347	3347	4386	4875	4875	5388
PLASTICIZING RATE (GPPS)	gm/sec	64	88	90	61	81	95
PLASTICIZING RATE (BARRIER SCREW)	gm/sec	79	107	109	74	98	113
NO. OF PYROMETER (BARREL+NOZZLE)		3+1			4+1		
TOTAL HEAT CAPACITY	kW	29.5			42.8		
CLAMP UNIT							
CLAMP FORCE	ton	450			450		
CLAMP STROKE	mm	1100			1100		
MAXIMUM DAYLIGHT	mm	1500			1500		
MINIMUM MOULD HEIGHT	mm	400			400		
PLATEN SIZE (H x V)	mm	1200 x 1200			1200 x 1200		
DISTANCE BETWEEN TIE ROD	mm	830 x 830			830 x 830		
TIE ROD DIAMETER	mm	140			140		
EJECTOR STROKE	mm	200			200		
EJECTOR FORCE	ton	11.5			11.5		
MOULD WEIGHT CAPACITY	kg	4800			4800		
GENERAL							
SERVO DRIVE *	kW	27.2			27.2		
TOTAL OIL TANK CAPACITY	ltr	1160			1160		
WATER REQUIREMENT (Inlet temp. 29°C)	lpm	150			150		
CONNECTED LOAD	kW	56.7			70		
MACHINE DIMENSION (L x W x H)	m	8.47 x 2.65 x 2.80			8.94 x 2.65 x 2.80		
MACHINE WEIGHT	kg	22300			23000		

** Under Specified Condition*



OMEGA SERVO 450 W

ALL DIMENSIONS ARE IN MM

A M20x50 DEEP (168 HOLES ON BOTH PLATENS)
B MOVING PLATEN : Ø 125.0 THRU BORE K/O BAR CENTER HOLE M24X40 MM DEEP
STATIONARY PLATEN : Ø 160.0 (+0.040/0.00) WITH LOCATING RING,
Ø 200.0 (+0.046/–0.00) WITHOUT LOCATING RING
C Ø 27.0 THRU, (8) HOLES & K/O BAR HOLES M16x40 DEEP (20) NOS
D Ø 52.4 THRU, (8) HOLES

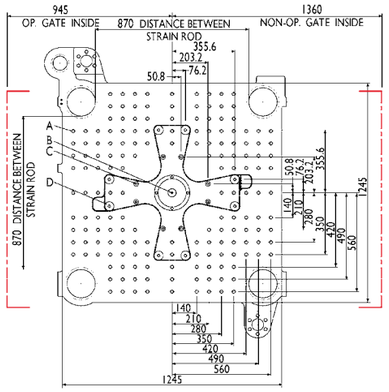
OMEGA SERVO

Hydraulic Injection Moulding Machine

Technical Specifications

MODEL		OMEGA SERVO 550 W											
INTERNATIONAL SIZE		5500 - 3340			5500 - 4850			5500 - 3340			5500 - 4850		
POWER PACK *		38.7 KW			38.7 KW			48.1 KW			48.1 KW		
INJECTION UNIT	UNIT	80 MM FRAME			90 MM FRAME			80 MM FRAME			90 MM FRAME		
		A	B	C	A	B	C	A	B	C	A	B	C
INJECTION CAPACITY MAX. (GPPS)	gm	1722	2179	2690	2421	2989	3617	1722	2179	2690	2421	2989	3617
THEORETICAL DISPLACEMENT	cc	1810	2290	2827	2545	3142	3801	1810	2290	2827	2545	3142	3801
INJECTION PRESSURE	bar	1843	1456	1180	1906	1544	1276	1843	1456	1180	1906	1544	1276
INJECTION RATE	cc/sec	629	796	983	592	731	885	659	834	1029	620	765	926
INJECTION SCREW STROKE	mm	360	360	360	400	400	400	360	360	360	400	400	400
SCREW DIAMETER	mm	80	90	100	90	100	110	80	90	100	90	100	110
SCREW L/D RATIO		22.5	20	18	22.2	20	18.2	22.5	20	18	22.2	20	18.2
SCREW SPEED	rpm	207	207	187	152	152	152	217	212	191	159	159	159
SCREW TORQUE @ 172 BAR	Nm	4875	4875	5388	6631	6631	6631	4875	4875	5388	6631	6631	6631
PLASTICIZING RATE (GPPS)	gm/sec	80	107	125	79	102	129	84	109	128	82	107	135
PLASTICIZING RATE (BARRIER SCREW)	gm/sec	97	130	149	95	121	154	102	133	152	100	127	161
NO. OF PYROMETER (BARREL+NOZZLE)		4+1			4+1			4+1			4+1		
TOTAL HEAT CAPACITY	kW	42.8			54			42.8			54		
CLAMP UNIT													
CLAMP FORCE	ton	550			550			550			550		
CLAMP STROKE	mm	1140			1140			1140			1140		
MAXIMUM DAYLIGHT	mm	1676			1676			1676			1676		
MINIMUM MOULD HEIGHT	mm	536			536			536			536		
PLATEN SIZE (H x V)	mm	1245 x 1245			1245 x 1245			1245 x 1245			1245 x 1245		
DISTANCE BETWEEN TIE ROD	mm	870 x 870			870 x 870			870 x 870			870 x 870		
TIE ROD DIAMETER	mm	160			160			160			160		
EJECTOR STROKE	mm	200			200			200			200		
EJECTOR FORCE	ton	12			12			12			12		
MOULD WEIGHT CAPACITY	kg	7060			7060			7060			7060		
GENERAL													
SERVO DRIVE *	kW	38.7			38.7			48.1			48.1		
TOTAL OIL TANK CAPACITY	ltr	1375			1375			1375			1375		
WATER REQUIREMENT (Inlet temp. 29°C)	lpm	150			150			150			150		
CONNECTED LOAD	kW	81.5			92.7			90.9			102.1		
MACHINE DIMENSION (L x W x H)	m	9.36 x 2.83 x 2.80			9.80 x 2.83 x 2.80			9.36 x 2.83 x 2.80			9.80 x 2.83 x 2.80		
MACHINE WEIGHT	kg	32300			32300			32300			32300		

** Under Specified Condition*



ALL DIMENSIONS ARE IN MM

OMEGA SERVO 550 W

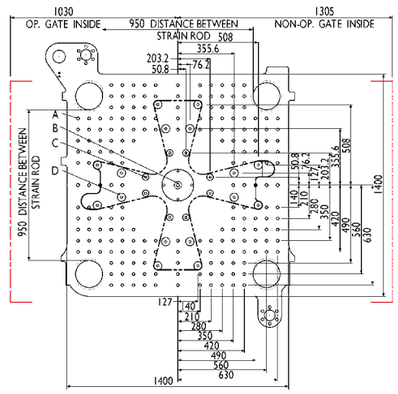
A M20x50 DEEP (168 HOLES ON BOTH PLATENS)
B MOVING PLATEN : Ø 160.0 THRU BORE & Ø 200x15 DEEP C'BORE K/O BAR CENTER HOLE M24 THRU
STATIONARY PLATEN : Ø 160.0 (+0.063/0.00) WITH LOCATING RING,
Ø 265.0 (+0.052/0.00) WITHOUT LOCATING RING
C Ø 27.0 THRU, (8) HOLES & K/O BAR HOLES M16x40 DEEP (20) NOS
D Ø 52.4 THRU, (8) HOLES

Technical Specifications

FERROMATIK MILACRON India

MODEL		OMEGA SERVO 660 W							
INTERNATIONAL SIZE		6600 - 4850			6600 - 6440			6600 - 10070	
POWER PACK *		48.1 KW			48.1 KW			48.1 KW	
INJECTION UNIT	UNIT	90 MM FRAME			100 MM FRAME			110 MM FRAME	
		A	B	C	A	B	C	A	B
INJECTION CAPACITY MAX. (GPPS)	gm	2421	2989	3617	3288	3978	5137	5063	6538
THEORETICAL DISPLACEMENT	cc	2545	3142	3801	3456	4181	5400	5322	6872
INJECTION PRESSURE	bar	1906	1544	1276	1864	1540	1193	1891	1465
INJECTION RATE	cc/sec	620	765	926	651	788	1018	541	699
INJECTION SCREW STROKE	mm	400	400	400	440	440	440	560	560
SCREW DIAMETER	mm	90	100	110	100	110	125	110	125
SCREW L/D RATIO		22.2	20	18.2	22	20	20	22.7	20
SCREW SPEED	rpm	159	159	159	128	128	128	128	128
SCREW TORQUE @ 172 BAR	Nm	6631	6631	6631	8268	8268	8268	8268	8268
PLASTICIZING RATE (GPPS)	gm/sec	82	107	135	85	108	159	108	159
PLASTICIZING RATE (BARRIER SCREW)	gm/sec	100	127	161	102	129	172	129	172
NO. OF PYROMETER (BARREL+NOZZLE)		4+1			4+1		4 + 1	4+1	
TOTAL HEAT CAPACITY	kW	54			59.3		61.9	62	
CLAMP UNIT									
CLAMP FORCE	ton	660			660			660	
CLAMP STROKE	mm	1320			1320			1320	
MAXIMUM DAYLIGHT	mm	1780			1780			1780	
MINIMUM MOULD HEIGHT	mm	460			460			460	
PLATEN SIZE (H x V)	mm	1400 x 1400			1400 x 1400			1400 x 1400	
DISTANCE BETWEEN TIE ROD	mm	950 x 950			950 x 950			950 x 950	
TIE ROD DIAMETER	mm	170			170			170	
EJECTOR STROKE	mm	200			200			200	
EJECTOR FORCE	ton	12			12			12	
MOULD WEIGHT CAPACITY	kg	9455			9455			9455	
GENERAL									
SERVO DRIVE *	kW	48.1			48.1			48.1	
TOTAL OIL TANK CAPACITY	ltr	1995			1995			1995	
WATER REQUIREMENT (Inlet temp. 29°C)	lpm	150			150			150	
CONNECTED LOAD	kW	102.1			107.4		110	110.1	
MACHINE DIMENSION (L x W x H)	m	10.41 x 2.84 x 2.92			10.71 x 2.84 x 2.92		11.01 x 2.84 x 2.92	11.25 x 2.84 x 2.92	
MACHINE WEIGHT	kg	35300			36000			37000	

** Under Specified Condition*



ALL DIMENSIONS ARE IN MM

OMEGA SERVO 660 W

A M20x50 DEEP (200 HOLES ON MOVING PLATEN)
M20x50 DEEP (208 HOLES ON STATIONARY PLATEN)
B MOVING PLATEN : Ø 200.0 THRU BORE K/O BAR CENTER HOLE M24 THRU
STATIONARY PLATEN : Ø 200.0 (+0.072/0.00) WITH LOCATING RING, Ø 315.0 (+0.052/0.00) WITHOUT LOCATING RING
C Ø 27.0 THRU, (8) HOLES & K/O BAR HOLES M16x40 DEEP (28) NOS
D Ø 52.4 THRU, (16) HOLES

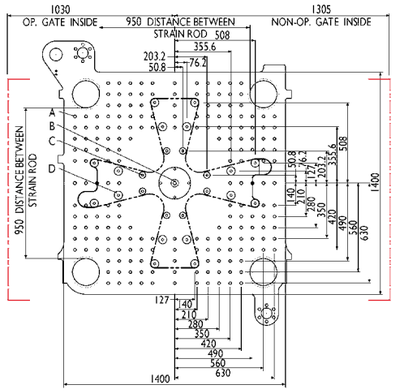
OMEGA SERVO

Hydraulic Injection Moulding Machine

Technical Specifications

MODEL		OMEGA SERVO 660 W							
INTERNATIONAL SIZE		6600 - 4850			6600 - 6440			6600 - 10070	
POWER PACK *		54.4 KW			54.4 KW			54.4 KW	
INJECTION UNIT	UNIT	90 MM FRAME			100 MM FRAME			110 MM FRAME	
		A	B	C	A	B	C	A	B
INJECTION CAPACITY MAX. (GPPS)	gm	2421	2989	3617	3288	3978	5137	5063	6538
THEORETICAL DISPLACEMENT	cc	2545	3142	3801	3456	4181	5400	5322	6872
INJECTION PRESSURE	bar	1906	1544	1276	1864	1540	1193	1891	1465
INJECTION RATE	cc/sec	897	1108	1340	943	1141	1473	784	1012
INJECTION SCREW STROKE	mm	400	400	400	440	440	440	560	560
SCREW DIAMETER	mm	90	100	110	100	110	125	110	125
SCREW L/D RATIO		22.2	20	18.2	22	20	20	22.7	20
SCREW SPEED	rpm	212	191	174	174	174	153	174	153
SCREW TORQUE @ 172 BAR	Nm	6631	6631	6631	8268	8268	8268	8268	8268
PLASTICIZING RATE (GPPS)	gm/sec	109	128	147	117	147	190	147	190
PLASTICIZING RATE (BARRIER SCREW)	gm/sec	133	152	176	139	176	205	176	205
NO. OF PYROMETER (BARREL+NOZZLE)		4+1			4+1		4 + 1	4+1	
TOTAL HEAT CAPACITY	kW	54			59.3		59.3	61.9	
CLAMP UNIT									
CLAMP FORCE	ton	660			660			660	
CLAMP STROKE	mm	1320			1320			1320	
MAXIMUM DAYLIGHT	mm	1780			1780			1780	
MINIMUM MOULD HEIGHT	mm	460			460			460	
PLATEN SIZE (H x V)	mm	1400 x 1400			1400 x 1400			1400 x 1400	
DISTANCE BETWEEN TIE ROD	mm	950 x 950			950 x 950			950 x 950	
TIE ROD DIAMETER	mm	170			170			170	
EJECTOR STROKE	mm	200			200			200	
EJECTOR FORCE	ton	12			12			12	
MOULD WEIGHT CAPACITY	kg	9455			9455			9455	
GENERAL									
SERVO DRIVE *	kW	54.4			54.4			54.4	
TOTAL OIL TANK CAPACITY	ltr	1995			1995			1995	
WATER REQUIREMENT (Inlet temp. 29°C)	lpm	200			200			200	
CONNECTED LOAD	kW	108.4			113.7		116.3	116.4	
MACHINE DIMENSION (L x W x H)	m	10.41 x 2.84 x 2.92			10.71 x 2.84 x 2.92		11.01 x 2.84 x 2.92	11.25 x 2.84 x 2.92	
MACHINE WEIGHT	kg	35300			36000			37000	

** Under Specified Condition*



ALL DIMENSIONS ARE IN MM

OMEGA SERVO 660 W

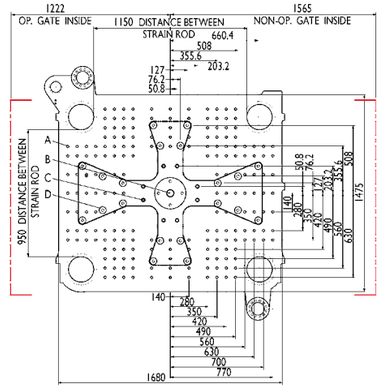
A M20x50 DEEP (200 HOLES ON MOVING PLATEN)
M20x50 DEEP (208 HOLES ON STATIONARY PLATEN)
B MOVING PLATEN : Ø 200.0 THRU BORE K/O BAR CENTER HOLE M24 THRU
STATIONARY PLATEN : Ø 200.0 (+0.072/0.00) WITH LOCATING RING, Ø 315.0 (+0.052/0.00) WITHOUT LOCATING RING
C Ø 27.0 THRU, (8) HOLES & K/O BAR HOLES M16x40 DEEP (28) NOS
D Ø 52.4 THRU, (16) HOLES

Technical Specifications

FERROMATIK MILACRON India

MODEL		OMEGA SERVO 775 W							
INTERNATIONAL SIZE		7750 - 4850			7750 - 6440			7750 - 10070	
POWER PACK *		48.1 KW			48.1 KW			48.1 KW	
INJECTION UNIT	UNIT	90 MM FRAME			100 MM FRAME			110 MM FRAME	
		A	B	C	A	B	C	A	B
INJECTION CAPACITY MAX. (GPPS)	gm	2421	2989	3617	3288	3978	5137	5063	6538
THEORETICAL DISPLACEMENT	cc	2545	3142	3801	3456	4181	5400	5322	6872
INJECTION PRESSURE	bar	1906	1544	1276	1864	1540	1193	1891	1465
INJECTION RATE	cc/sec	620	765	926	651	788	1018	541	699
INJECTION SCREW STROKE	mm	400	400	400	440	440	440	560	560
SCREW DIAMETER	mm	90	100	110	100	110	125	110	125
SCREW L/D RATIO		22.2	20	18.2	22	20	20	22.7	20
SCREW SPEED	rpm	159	159	159	128	128	128	128	128
SCREW TORQUE @ 172 BAR	Nm	6631	6631	6631	8268	8268	8268	8268	8268
PLASTICIZING RATE (GPPS)	gm/sec	82	107	135	85	108	159	108	159
PLASTICIZING RATE (BARRIER SCREW)	gm/sec	100	127	161	102	129	172	129	172
NO. OF PYROMETER (BARREL+NOZZLE)		4+1			4+1		4 + 1	4+1	
TOTAL HEAT CAPACITY	kW	54			59.3		61.9	62	
CLAMP UNIT									
CLAMP FORCE	ton	775			775			775	
CLAMP STROKE	mm	1320			1320			1320	
MAXIMUM DAYLIGHT	mm	1920			1920			1920	
MINIMUM MOULD HEIGHT	mm	600			600			600	
PLATEN SIZE (H x V)	mm	1680 x 1475			1680 x 1475			1680 x 1475	
DISTANCE BETWEEN TIE ROD	mm	1150 x 950			1150 x 950			1150 x 950	
TIE ROD DIAMETER	mm	190			190			190	
EJECTOR STROKE	mm	200			200			200	
EJECTOR FORCE	ton	18.3			18.3			18.3	
MOULD WEIGHT CAPACITY	kg	10820			10820			10820	
GENERAL									
SERVO DRIVE *	kW	48.1			48.1			48.1	
TOTAL OIL TANK CAPACITY	ltr	1995			1995			1995	
WATER REQUIREMENT (Inlet temp. 29°C)	lpm	150			150			150	
CONNECTED LOAD	kW	102.1			107.4		110	110.1	
MACHINE DIMENSION (L x W x H)	m	10.56 x 3.29 x 2.92			10.89 x 3.29 x 2.92		11.20 x 3.29 x 2.92	11.43 x 3.29 x 2.92	
MACHINE WEIGHT	kg	38300			39000			40000	

** Under Specified Condition*



ALL DIMENSIONS ARE IN MM

OMEGA SERVO 775 W

A M20x50 DEEP (192 HOLES ON MOVING PLATEN)
M20x50 DEEP (200 HOLES ON STATIONARY PLATEN)
B MOVING PLATEN : Ø 200.0 THRU BORE K/O BAR CENTER HOLE M24 THRU
STATIONARY PLATEN : Ø 200.0 (+0.072/0.00) WITH LOCATING RING, Ø 315.0 (+0.052/0.00) WITHOUT LOCATING RING
C Ø 27.0 THRU, (8) HOLES & K/O BAR HOLES M20x65 DEEP (32) NOS
D Ø 52.4 THRU, (20) HOLES

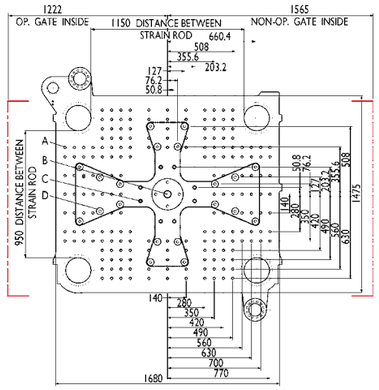
OMEGA SERVO

Hydraulic Injection Moulding Machine

Technical Specifications

MODEL		OMEGA SERVO 775 W							
INTERNATIONAL SIZE		7750 - 4850			7750 - 6440			7750 - 10070	
POWER PACK *		54.4 KW			54.4 KW			54.4 KW	
INJECTION UNIT	UNIT	90 MM FRAME			100 MM FRAME			110 MM FRAME	
		A	B	C	A	B	C	A	B
INJECTION CAPACITY MAX. (GPPS)	gm	2421	2989	3617	3288	3978	5137	5063	6538
THEORETICAL DISPLACEMENT	cc	2545	3142	3801	3456	4181	5400	5322	6872
INJECTION PRESSURE	bar	1906	1544	1276	1864	1540	1193	1891	1465
INJECTION RATE	cc/sec	897	1108	1340	943	1141	1473	784	1012
INJECTION SCREW STROKE	mm	400	400	400	440	440	440	560	560
SCREW DIAMETER	mm	90	100	110	100	110	125	110	125
SCREW L/D RATIO		22.2	20	18.2	22	20	20	22.7	20
SCREW SPEED	rpm	212	191	174	174	174	153	174	153
SCREW TORQUE @ 172 BAR	Nm	6631	6631	6631	8268	8268	8268	8268	8268
PLASTICIZING RATE (GPPS)	gm/sec	109	128	147	117	147	190	147	190
PLASTICIZING RATE (BARRIER SCREW)	gm/sec	133	152	176	139	176	205	176	205
NO. OF PYROMETER (BARREL+NOZZLE)		4+1			4+1		4 + 1	4+1	
TOTAL HEAT CAPACITY	kW	54			59.3		61.9	62	
CLAMP UNIT									
CLAMP FORCE	ton	775			775			775	
CLAMP STROKE	mm	1320			1320			1320	
MAXIMUM DAYLIGHT	mm	1920			1920			1920	
MINIMUM MOULD HEIGHT	mm	600			600			600	
PLATEN SIZE (H x V)	mm	1680 x 1475			1680 x 1475			1680 x 1475	
DISTANCE BETWEEN TIE ROD	mm	1150 x 950			1150 x 950			1150 x 950	
TIE ROD DIAMETER	mm	190			190			190	
EJECTOR STROKE	mm	200			200			200	
EJECTOR FORCE	ton	18.3			18.3			18.3	
MOULD WEIGHT CAPACITY	kg	10820			10820			10820	
GENERAL									
SERVO DRIVE *	kW	54.4			54.4			54.4	
TOTAL OIL TANK CAPACITY	ltr	1995			1995			1995	
WATER REQUIREMENT (Inlet temp. 29°C)	lpm	200			200			200	
CONNECTED LOAD	kW	108.4			113.7		116.3	116.4	
MACHINE DIMENSION (L x W x H)	m	10.56 x 3.29 x 2.92			10.89 x 3.29 x 2.92		11.20 x 3.29 x 2.92	11.43 x 3.29 x 2.92	
MACHINE WEIGHT	kg	38300			39000			40000	

** Under Specified Condition*



ALL DIMENSIONS ARE IN MM

OMEGA SERVO 775 W

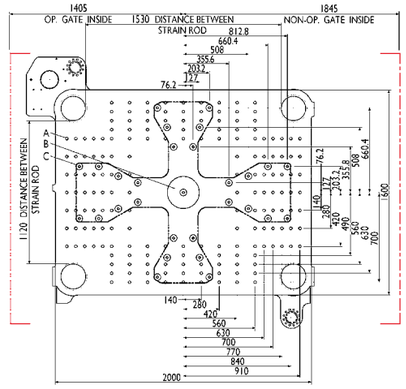
A M20x50 DEEP (192 HOLES ON MOVING PLATEN)
M20x50 DEEP (200 HOLES ON STATIONARY PLATEN)
B MOVING PLATEN : Ø 200.0 THRU BORE K/O BAR CENTER HOLE M24 THRU
STATIONARY PLATEN : Ø 200.0 (+0.072/0.00) WITH LOCATING RING, Ø 315.0 (+0.052/0.00) WITHOUT LOCATING RING
C Ø 27.0 THRU, (8) HOLES & K/O BAR HOLES M20x65 DEEP (32) NOS
D Ø 52.4 THRU, (20) HOLES

Technical Specifications

FERROMATIK MILACRON India

MODEL		OMEGA SERVO 910 W							
INTERNATIONAL SIZE		9100 - 6440			9100 - 10070		9100 - 16000		
POWER PACK *		54.4 KW			54.4 KW		54.4 KW		
INJECTION UNIT	UNIT	100 MM FRAME			110 MM FRAME		16000		
		A	B	C	A	B	A	B	
INJECTION CAPACITY MAX. (GPPS)	gm	3288	3978	5137	5063	6538	8173	10252	
THEORETICAL DISPLACEMENT	cc	3456	4181	5400	5322	6872	8590	10776	
INJECTION PRESSURE	bar	1864	1540	1193	1891	1465	1893	1509	
INJECTION RATE	cc/sec	943	1141	1473	784	1012	783	982	
INJECTION SCREW STROKE	mm	440	440	440	560	560	700	700	
SCREW DIAMETER	mm	100	110	125	110	125	125	140	
SCREW L/D RATIO		22	20	20	22.7	20	22.4	20	
SCREW SPEED	rpm	174	174	153	174	153	82	82	
SCREW TORQUE @ 172 BAR	Nm	8268	8268	8268	8268	8268	18703	18703	
PLASTICIZING RATE (GPPS)	gm/sec	117	147	190	147	190	-	-	
PLASTICIZING RATE (BARRIER SCREW)	gm/sec	139	176	205	176	205	110	143	
NO. OF PYROMETER (BARREL+NOZZLE)		4+1		4 + 1	4+1		4+1		
TOTAL HEAT CAPACITY	kW	59.3		61.9	62		65		
CLAMP UNIT									
CLAMP FORCE	ton	910			910		910		
CLAMP STROKE	mm	1600			1600		1600		
MAXIMUM DAYLIGHT	mm	2350			2350		2350		
MINIMUM MOULD HEIGHT	mm	750			750		750		
PLATEN SIZE (H x V)	mm	2000 x 1600			2000 x 1600		2000 x 1600		
DISTANCE BETWEEN TIE ROD	mm	1530 x 1120			1530 x 1120		1530 x 1120		
TIE ROD DIAMETER	mm	190			190		190		
EJECTOR STROKE	mm	210			210		210		
EJECTOR FORCE	ton	18.3			18.3		18.3		
MOULD WEIGHT CAPACITY	kg	19045			19045		19045		
GENERAL									
SERVO DRIVE *	kW	54.4			54.4		54.4		
TOTAL OIL TANK CAPACITY	ltr	2900			2900		2900		
WATER REQUIREMENT (Inlet temp. 29°C)	lpm	200			200		200		
CONNECTED LOAD	kW	113.7		116.3	116.4		119.4		
MACHINE DIMENSION (L x W x H)	m	12.23 x 3.49 x 2.89		12.58 x 3.49 x 2.89	12.82 x 3.49 x 2.89		13.80 x 3.49 x 2.89		
MACHINE WEIGHT	kg	60000			61000		68500		

** Under Specified Condition*



ALL DIMENSIONS ARE IN MM

OMEGA SERVO 910 W

A M24x60 DEEP (176 HOLES ON MOVING PLATEN)
M24x60 DEEP (180 HOLES ON STATIONARY PLATEN)
B MOVING PLATEN : Ø 250.0 THRU BORE K/O BAR CENTER HOLE M20x50 MM DEEP
STATIONARY PLATEN : Ø 250.0 (+0.072/0.00) WITH LOCATING RING,
Ø 315.0 (+0.052/0.000) WITHOUT LOCATING RING
C Ø 52.4 THRU, (28) HOLES & K/O BAR HOLES M20x50 DEEP (28) NOS

OMEGA SERVO

Hydraulic Injection Moulding Machine

FERROMATIK MILACRON India

Design Advantages & Features

CLAMP

- Hollow Headless Ram with Mono Seal & No Piston Rings
- Large Prefill Designed for Fast Tonnage Build-up
- Rapid Traverse Cylinders
- Conical Strain Rod Nuts & Controlled Stress on Tie Rods
- Adjustable moving Platen Skates
- Rigid Cast Platens with FEA
- Adjustable Pressure setting of Closing & Opening Stage
- Proportional Speed Control with 5 Closing & 5 Opening Speed
- Adjustable 2 Stage Mould Safety Pressure & 1 Stage Speed
- Position Based Ramping for Accurate Position Switching - Precise Speed & Pressure Control
- Linear Position Transducer for Accurate Clamp Position Control
- Sensitive Mould Protection with Try Again Circuit
- Stage Wise Actual Time Display
- Insert Moulding Program
- Actual Tonnage Display on Screen

EJECTOR

- Knock-Out Bar
- 2 Stage Programmable Ejector Forward Profile with Soft Eject
- Ejector Speed & Pressure adustable on Screen
- Linear Transducer for Ejector Position
- Pulsating Ejector Strokes upto 9 Pulses
- Intermediate Retract Set Point
- Ejector Stay Forward & Forward Dwell Timer
- Ejector on Fly (550 to 910 ton)

INJECTION

- 6 Stage Injection Velocity & 15 Stage Injection Pressure Profile
- 5 Stage Screw Speed & 5 Stage Back Pressure Control (Setting) through Screen
- Digital setting of Extruder RPM & Digital Read out of Actual RPM
- Wide Choice of Injection Units with A-B-C Screw/Barrel Combinations
- Easy Injection Unit Swivelling
- Switch Over from Fill to Pack based on Position or Time
- Linear Position Transducer for Accurate Injection Position Control
- Injection Decompression Before / After Refilling or Both
- Semi-Auto Purge, Cold Slug removal & Intrusion Moulding Programs
- Aluminum Chequered Plate below Purge Area
- Sprue Break with Timer
- Injection start, Suck-back & Melt Decompresion - Delay Timer
- Graphically Adjustable Alarm Bands for Injection Pressure
- Nozzle Contact Force by Pressure Switch
- Sliding Hopper
- Insulated Heater Band

TEMPERATURE CONTROL

- Actual Current Display of Barrel Heating Zones
- Heater Failure & Thermocouple Open Detection
- Accurate PID Temperature Control settable on Screen
- Feed Throat Temperature Indication
- Auto Heat Startup & Shutdown
- Heat Standby after set number of Cycles
- Soak Timer for Cold Start Protection
- High / Low Temperature Alarm
- Set & Actual Temperature Data with Bar Graph

CONTROLS

- 22 Parameter Monitoring for last 1000 cycles with Graphics
- 10.4" TFT Color Display with Alpha - Numeric Keypad
- Actual Injection Speed & Pressure Graph Display
- 80 Mould Data Storage
- Configurable Multilevel Password with Operator's Name
- Graphically Presentation of Hourly Production
- Customized Setup Menu
- High / Low Limit Display for Each Adjustable Parameter
- I / 0 diagnosis - Analog & Digital
- Timer Precision in 0.01 Second
- Change Log Menu: logs last 100 Set Points Changes with Time & Date
- Statistical Process Control (SPC) with Graphics
- Process Mode: Functions with its Co-fuctions on a Single Key Press
- Note Pad & Maintenance Scheduling
- Freely Programmable Smart Outputs
- Over View Screen with Graphical Display of Machine Functions
- Soft Keys for Fast Access of Select Menus
- Auto shut down
- Visual & Audible Alarm
- 1000 Alarm History with Date & Time Log
- Printer Interface with USB Port

HYDRAULICS

- Servo Motor Driven Pump
- Ergonomic Hydraulic Layout for Easy Approach
- Valves Placed near Actuators for Rapid Response
- Pre-Heating Circuit for Hydraulic Oil
- Low Oil Level Audible Alarm & Motor Shut Down
- Continuous Oil Filtration with 20 Micron Filter
- Audible Alarm for Filter Clogging

AVAILABLE OPTIONS

- Air Ejection
- Hydraulic Core pull
- Feed Throat Temperature Control
- Oil Temperature Control
- Part Drop Detect for Single Cavity
- Water Battery with Temperature Indicator
- Water Manifolds
- Robot Interface (SPI / EUROMAP)
- Extra Heating Zones
- Jam Bar
- T-slot Platens
- Extended Daylight with Ram Spacer
- Interface for Ejector Retract Verification
- Bimetallic Barrel & Hardened / Coated Screw

All specifications reflect average values based on typical machine layouts. Actual figures will vary depending on final machine configuration. Performance specifications are based on theoretical data. Photograph may show attachments or accessories, which may not be part of the standard scope of supply. Due to continual improvements, specifications & some components are subject to change without notice.

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