

## ***HyCAP Machine Specifications V2.1***

### **Product Matrix**

	RS55	RS65	RS80	RS95
H225	•	•	•	
H300		•	•	•
H400			•	•
H500			•	•

	Standard	Option
<b>Clamp Features</b>		
Hydro-mechanical 3 platen clamp	✓	
Moving platen linear guide bearings for clean molding environment	✓	
Wide tie bar spacing	✓	
Multi step clamp opening and closing speed profile	✓	
Mold break force up to 10% of clamp tonnage	✓	
Closed loop mold protection pressure control	✓	
Closed loop clamp force control	✓	
Euromap, SPI or JIS mold mounting pattern	✓	
Regenerative mold stroke hydraulics for improved energy efficiency	✓	
Hydraulic ejector with 3 zones of ejector speed and force control from operator interface	✓	
Mechanical clamp movement safety device (safety drop bar). Note: mandatory in some locations		✓
Mold cooling circuit with manifolds, flow sensor and automatic shutoff	✓	
Two air functions with pressure and flow regulator on the moving platen	✓	
Air reservoir		✓
Pneumatic valve gate (sequential control for multiple circuits)		✓
Programmable hydraulic functions with pressure limiting and flow control from operator interface		✓
<b>General Machine Features</b>		
37 month parts warranty	✓	
37 month leak free hydraulics warranty (parts and labor)	✓	
Electric extruder drive	✓	
Simultaneous operation of clamp, ejector, cores and plasticizing functions	✓	
Machine built to CE or ASME/UL/OHSA/NFPA safety standards	✓	
Special color		✓
<b>Injection Features</b>		
Robust In-line injection unit design, ideal for high speed injection	✓	
High speed accumulator assisted injection	✓	
High output speed screw drives	✓	
Hydraulic rotary shut-off nozzle	✓	
Barrel support	✓	
Injection swing for ease of screw and barrel access	✓	
High wear bi-metallic lined barrel (AC330 or eq.) and wear resistant screw tip overlay (Colmonoy 83 or eq.)	✓	
Mineral insulated heater bands	✓	
Ball check valve	✓	
Ring check valve		✓
Automatic carriage sequence controls for sprue break and stack molds	✓	
Carriage forward before, during or after clamp up	✓	
Screen adjustable proportional carriage control	✓	
Screw pullback before and/or after injection	✓	
Adjustable screw pullback speed from the operator interface	✓	
Mixer/Blender interface with power supply, air supply and auto purge logic	✓	
Cold screw start protection	✓	
Purge guard with safety interlocked access	✓	
Water cooled feedthroat	✓	
Selection of resin specific screw designs	✓	
Second hopper position for easy emptying	✓	
Powered hopper shutoff		✓
Hopper drawer magnet		✓
Hopper with minimum level monitoring		✓
Hopper access walkway		✓
Injection unit access platform		✓
Color changing feature		✓

	Standard	Option
<b>Controls Features</b>		
Industrial PC machine control with Windows™ style operator interface	✓	
Data storage on USB, hard drive and CD	✓	
Solid state heater relays	✓	
Ultrasonic non-contact position transducers on clamp injection unit and ejector, 5 micron resolution	✓	
Flat panel colour operator interface, touch screen	✓	
Sealed electric cabinet with internal air circulation fan	✓	
Star delta motor starter	✓	
Hour meter	✓	
Ports for parallel printer, external keyboard and mouse, external screen, ethernet, and modem	✓	
Closed loop control of injection speed, hold pressure, back pressure, and fill pressure limiting	✓	
10 step injection speed profile	✓	
10 step recovery speed and back pressure profiles	✓	
10 step hold pressure profile	✓	
Graphical display of injection speed, injection pressure, clamp pressure, platen speed	✓	
Cushion control and monitoring	✓	
Transition injection to hold by position, time, hydraulic pressure	✓	
Screens in English and one other world language with on-line language switching	✓	
Imperial and metric units with on-line switching	✓	
Set and actual parameters in engineering units	✓	
Explicit alarm descriptions with on-line help	✓	
Save / recall of over 1000 machine setups with set-up transfer on CD or USB device	✓	
Cycle time, highest priority alarm, clock & machine status on every screen	✓	
Setpoint limit checking	✓	
Multi-level password protected data entry	✓	
Troubleshooting screens	✓	
Machine events (20000) and downtime reports	✓	
SPC/SQC software package with analysis, and alarms (20000 cycles)	✓	
Storage of process values (10000 cycles)	✓	
Machine and mold heat scheduling	✓	
Timer based, automatic heat reduction if machine stops	✓	
Production counter with completion alarm	✓	
Audible alarm	✓	
High ambient temperature package		✓
Set point change reason reporting		✓
Power outlet package		✓
Host computer interface		✓
Injection compression		✓
Hotrunner temperature controls interface		✓
Photo eye part detection		✓
Interface to auxiliary devices		✓
<b>Hydraulic Features</b>		
Independent servo valve control of clamp tonnage, mold stroke and injection	✓	
Variable displacement pumps	✓	
High efficiency water cooled drive motor	✓	
Noise reducing fully enclosed power pack	✓	
Face-seal fittings	✓	
Quick connector on filter for oil filling	✓	
High flow bypass oil filtration (3 micron) with pressure drop monitoring	✓	
Oil level monitoring	✓	
Closed loop oil temperature control	✓	
Oil preheating	✓	
Hydraulic hose restraints on pressure lines	✓	
Mold services identified with nameplates	✓	
High and low oil temperature alarms	✓	
High oil temperature pre-alarm	✓	
Pressurized oil tank for minimum contamination	✓	
Centralized oil collection and recovery system	✓	
Quick connectors for hydraulic guage (supplied) at key hydraulic test points	✓	
Hydraulic supply for customer requirements		✓

## Clamp

		H225
Clamp Force	kN	2250
Tiebar Spacing (Horizontal x Vertical)	mm	660 x 660
Platen Size (Horizontal x Vertical)	mm	950 x 950
Clamp Stroke <sup>(1)</sup>	mm	540 / 920
Shutheight (Min / Max)	mm	280 / 660
Daylight	mm	1200
Ejector Stroke	mm	100
Ejector Force	kN	141
Tiebar Diameter	mm	110
Maximum Mold Weight <sup>(6)</sup>	kg	3000
Dry Cycle <sup>(2)</sup>	s	1.22

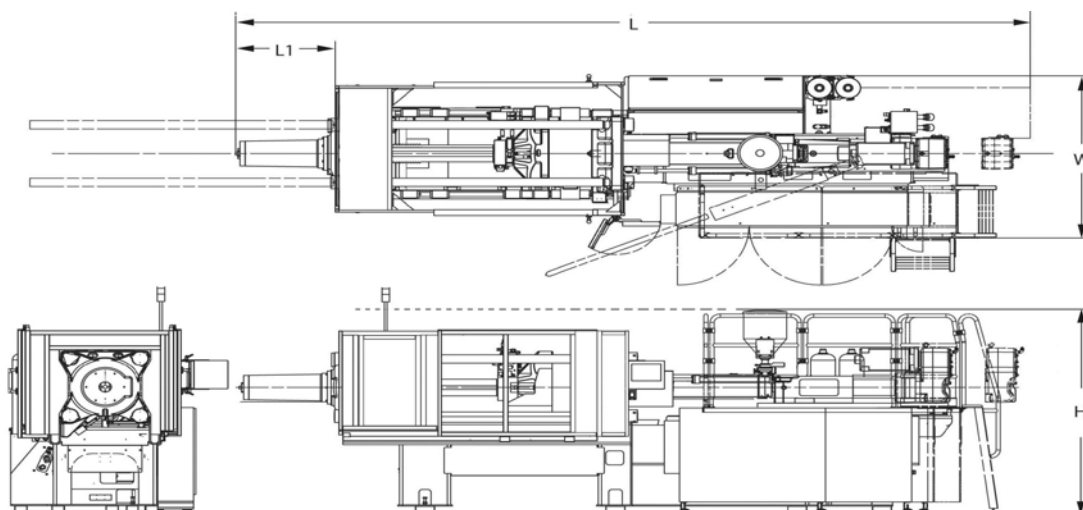
## RS Injection Model

		RS55	RS65	RS80
Working Capacity		980	1612	2651
Screw Diameter	mm	50	60	65 70
Screw L/D		25.0	25.0	27.1 25.0
Injection Pressure	bar	2080	2000	2350 2030
Injection Stroke	mm	240	285	340 340
Injection Capacity	cm <sup>3</sup>	471	806	1128 1308
Barrel Heat Power	kW	21.6	27.2	42.0 42.0
Barrel Control Zones <sup>(3)</sup>		4	4	5 5
High Speed Accumulator Assist Injection Rate <sup>(4)</sup>	cm <sup>3</sup> /s	1642	1709	3801 4408
High Speed Accumulator Assist Air Shot Rate	cm <sup>3</sup> /s	3200	3300	6000 7000
Carriage Force	kN	80	80	178 178
Melt Channel Diameter	mm	15	15	22 22
<b>Screw Drive <sup>(5)</sup></b>				
<b>HDPE MFI 1-6</b>				
Screw Speed	RPM	382	318	294 273
Peripheral Screw Speed	m/s	1.0	1.0	1.0 1.0
Screw Torque	Nm	1522	2490	3351 3776
<b>HDPE MFI 7-11</b>				
Screw Speed	RPM	458	382	353 327.4
Peripheral Screw Speed	m/s	1.2	1.2	1.2 1.2
Screw Torque	Nm	1155	1890	2543 2866
<b>Overall Machine Specifications</b>				
Oil Volume	l	630	720	970
Overall Width x Height	mm	1910 x 2472	1899 x 2522	2017 x 2522
Overall Length	mm	7418	7788	8692
Overall Weight	t	13.4	14.6	17.3

- Notes:**
- (1) Available stroke at maximum shutheight / maximum stroke at minimum shutheight.
  - (2) 100% speed, 100% clamp force using 350 mm stroke.
  - (3) Additional zones provided for barrel head, nozzle adapter, and optional shut-off head.
  - (4) Instantaneous injection rate at 2/3 of maximum available plastic pressure up to 30% injection stroke.
  - (5) Please consult Husky for final resin specific plasticizing performance for your application.
  - (6) Maximum 60% stationary platen, 40% moving platen

Specifications are subject to change without notice.

Some injection combinations may have smaller overall length. For detailed information, refer to detailed machine dimensions in this brochure.



## Clamp

		H300	
Clamp Force	kN	3000	
Tiebar Spacing (Horizontal x Vertical)	mm	780	x 780
Platen Size (Horizontal x Vertical)	mm	1130	x 1130
Clamp Stroke <sup>(1)</sup>	mm	600	/ 1075
Shutheight (Min / Max)	mm	300	/ 775
Daylight	mm	1375	
Ejector Stroke	mm	98	
Ejector Force	kN	141	
Tiebar Diameter	mm	130	
Maximum Mold Weight <sup>(6)</sup>	kg	3000	
Dry Cycle <sup>(2)</sup>	s	1.33	

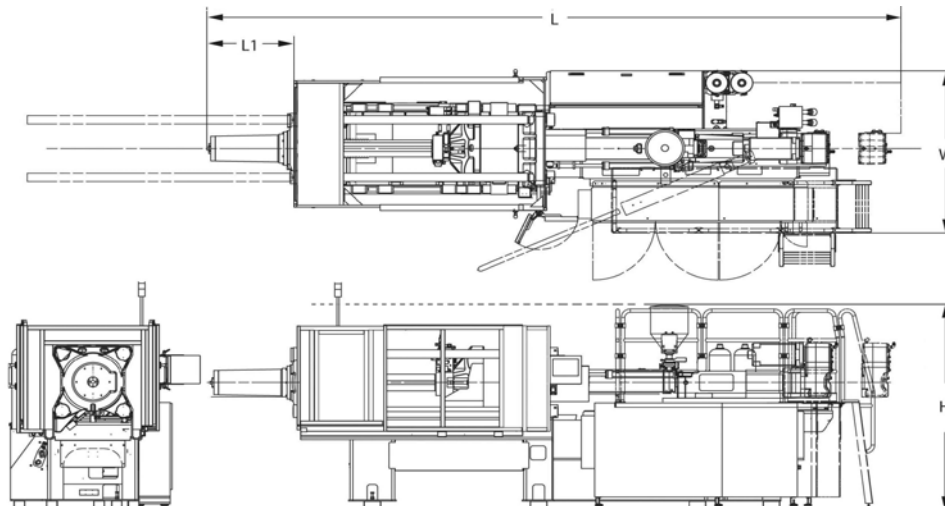
## RS Injection Model

		RS65	RS80		RS95	
Working Capacity		1612	2651		4756	
Screw Diameter	mm	60	65	70	80	85
Screw L/D		25.0	27.1	25.0	26.7	25.0
Injection Pressure	bar	2000	2350	2030	2280	2020
Injection Stroke	mm	285	340	340	415	415
Injection Capacity	cm <sup>3</sup>	806	1128	1308	2086	2355
Barrel Heat Power	kW	27.2	42.0	42.0	57.6	57.6
Barrel Control Zones <sup>(3)</sup>		4	5	5	6	6
High Speed Accumulator Assist Injection Rate <sup>(4)</sup>	cm <sup>3</sup> /s	1709	3801	4408	3973	4485
High Speed Accumulator Assist Air Shot Rate	cm <sup>3</sup> /s	3300	6000	7000	6300	7100
Carriage Force	kN	80	178	178	178	178
Melt Channel Diameter	mm	15	22	22	22	22
<b>Screw Drive <sup>(5)</sup></b>						
<b>HDPE MFI 1-6</b>						
Screw Speed	RPM	318	294	273	239	225
Peripheral Screw Speed	m/s	1.0	1.0	1.0	1.0	1.0
Screw Torque	Nm	2490	3351	3776	5783	6378
<b>HDPE MFI 7-11</b>						
Screw Speed	RPM	382	353	327.4	286	269.6
Peripheral Screw Speed	m/s	1.2	1.2	1.2	1.2	1.2
Screw Torque	Nm	1890	2543	2866	4390	4841
<b>Overall Machine Specifications</b>						
Oil Volume	l	720	1005		1025	
Overall Width x Height	mm	2016	x	2463	2134	x 2522
Overall Length	mm	8185	9089		9753	
Overall Weight	t	18.3	21.0		22.3	

- Notes:**
- (1) Available stroke at maximum shutheight / maximum stroke at minimum shutheight.
  - (2) 100% speed, 100% clamp force using 350 mm stroke.
  - (3) Additional zones provided for barrel head, nozzle adapter, and optional shut-off head.
  - (4) Instantaneous injection rate at 2/3 of maximum available plastic pressure up to 30% injection stroke.
  - (5) Please consult Husky for final resin specific plasticizing performance for your application.
  - (6) Maximum 60% stationary platen, 40% moving platen

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## Clamp

		H400
Clamp Force	kN	4000
Tiebar Spacing (Horizontal x Vertical)	mm	920 x 920
Platen Size (Horizontal x Vertical)	mm	1310 x 1310
Clamp Stroke <sup>(1)</sup>	mm	725 / 1280
Shutheight (Min / Max)	mm	320 / 875
Daylight	mm	1600
Ejector Stroke	mm	136
Ejector Force	kN	187
Tiebar Diameter	mm	148
Maximum Mold Weight <sup>(6)</sup>	kg	7500
Dry Cycle <sup>(2)</sup>	s	1.39

## RS Injection Model

		RS80	RS95
Working Capacity		2651	4756
Screw Diameter	mm	65 70	80 85
Screw L/D		27.1 25.0	26.7 25.0
Injection Pressure	bar	2350 2030	2280 2020
Injection Stroke	mm	340 340	415 415
Injection Capacity	cm <sup>3</sup>	1128 1308	2086 2355
Barrel Heat Power	kW	42.0 42.0	57.6 57.6
Barrel Control Zones <sup>(3)</sup>		5 5	6 6
High Speed Accumulator Assist Injection Rate <sup>(4)</sup>	cm <sup>3</sup> /s	3801 4408	3973 4485
High Speed Accumulator Assist Air Shot Rate	cm <sup>3</sup> /s	6000 7000	6300 7100
Carriage Force	kN	178 178	178 178
Melt Channel Diameter	mm	22 22	22 22

## Screw Drive <sup>(5)</sup>

### HDPE MFI 1-6

Screw Speed	RPM	294 273	239 225
Peripheral Screw Speed	m/s	1.0 1.0	1.0 1.0
Screw Torque	Nm	3351 3776	5783 6378

### HDPE MFI 7-11

Screw Speed	RPM	353 327.4	286 269.6
Peripheral Screw Speed	m/s	1.2 1.2	1.2 1.2
Screw Torque	Nm	2543 2866	4390 4841

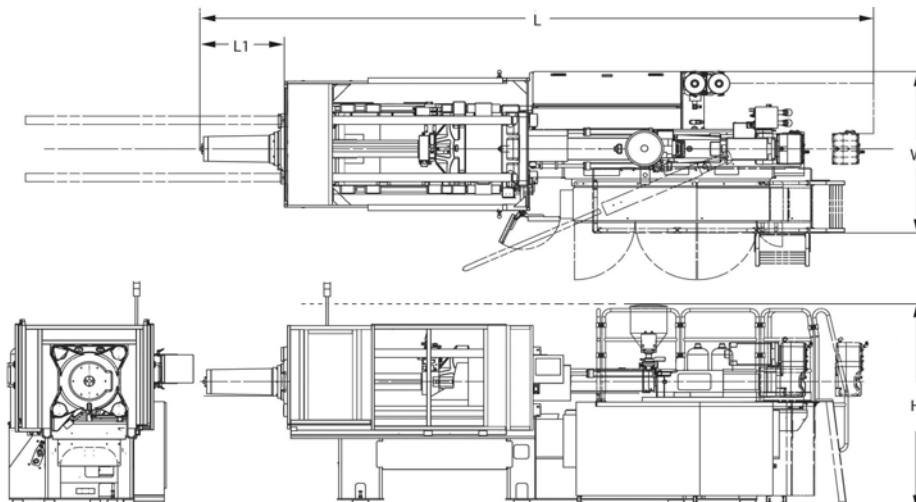
## Overall Machine Specifications

Oil Volume	l	1020	1035
Overall Width x Height	mm	2258 x 2522	2258 x 2522
Overall Length	mm	9738	10402
Overall Weight	t	27.6	28.9

- Notes:**
- (1) Available stroke at maximum shutheight / maximum stroke at minimum shutheight.
  - (2) 100% speed, 100% clamp force using 350 mm stroke.
  - (3) Additional zones provided for barrel head, nozzle adapter, and optional shut-off head.
  - (4) Instantaneous injection rate at 2/3 of maximum available plastic pressure up to 30% injection stroke.
  - (5) Please consult Husky for final resin specific plasticizing performance for your application.
  - (6) Maximum 60% stationary platen, 40% moving platen

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## Clamp

		H500	
Clamp Force	kN	5000	
Tiebar Spacing (Horizontal x Vertical)	mm	1020	x 1020
Platen Size (Horizontal x Vertical)	mm	1440	x 1480
Clamp Stroke <sup>(1)</sup>	mm	850	/ 1450
Shutheight (Min / Max)	mm	350	/ 950
Daylight	mm	1800	
Ejector Stroke	mm	136	
Ejector Force	kN	187	
Tiebar Diameter	mm	168	
Maximum Mold Weight <sup>(6)</sup>	kg	10400	
Dry Cycle <sup>(2)</sup>	s	1.51	

## RS Injection Model

		RS80		RS95	
Working Capacity		2651		4756	
Screw Diameter	mm	65	70	80	85
Screw L/D		27.1	25.0	26.7	25.0
Injection Pressure	bar	2350	2030	2280	2020
Injection Stroke	mm	340	340	415	415
Injection Capacity	cm <sup>3</sup>	1128	1308	2086	2355
Barrel Heat Power	kW	42.0	42.0	57.6	57.6
Barrel Control Zones <sup>(3)</sup>		5	5	6	6
High Speed Accumulator Assist Injection Rate <sup>(4)</sup>	cm <sup>3</sup> /s	3801	4408	3973	4485
High Speed Accumulator Assist Air Shot Rate	cm <sup>3</sup> /s	6000	7000	6300	7100
Carriage Force	kN	178	178	178	178
Melt Channel Diameter	mm	22	22	22	22
<b>Screw Drive <sup>(5)</sup></b>					
<b>HDPE MFI 1-6</b>					
Screw Speed	RPM	294	273	239	225
Peripheral Screw Speed	m/s	1.0	1.0	1.0	1.0
Screw Torque	Nm	3351	3776	5783	6378
<b>HDPE MFI 7-11</b>					
Screw Speed	RPM	353	327.4	286	269.6
Peripheral Screw Speed	m/s	1.2	1.2	1.2	1.2
Screw Torque	Nm	2543	2866	4390	4841
<b>Overall Machine Specifications</b>					
Oil Volume	l	1020		1035	
Overall Width x Height	mm	2352	x 2522	2383	x 2522
Overall Length	mm	11338		12002	
Overall Weight	t	32.0		33.3	

- Notes:**
- (1) Available stroke at maximum shutheight / maximum stroke at minimum shutheight.
  - (2) 100% speed, 100% clamp force using 350 mm stroke.
  - (3) Additional zones provided for barrel head, nozzle adapter, and optional shut-off head.
  - (4) Instantaneous injection rate at 2/3 of maximum available plastic pressure up to 30% injection stroke.
  - (5) Please consult Husky for final resin specific plasticizing performance for your application.
  - (6) Maximum 55% stationary platen, 45% moving platen

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