

t-win

HYDRAULIC TWO PLATEN INJECTION MOLDING MACHINE


Website

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- ENGEL
- ELECTRONICA

- 12 PRODUCTION PLANTS
- 30 SUBSIDIARIES
- 60 REPRESENTATIVES

HIGHER PRODUCTIVITY

The servo hydraulic two-platen t-win is focused on fast and high efficient production. Fast movements, short clamping force build-up time and synchronized locking device movement reduce total cycle time and increase productivity.

INCREASED AVAILABILITY

The reliable and proven design as well as features allow fast access for maintenance and increase machine availability and output.

HIGHER ENERGY EFFICIENCY

The servo drive system servowin guarantees fast acceleration and low energy consumption.



SMALLER FOOTPRINT

The two-platen machine concept allows a compact design for less space requirements.

SMARTER CONTROL UNIT

Future-oriented technologies with long-term availability and transformation. Powerful extending function for future challenges. C3 controller keeps you on top of processes that continue to become more and more complex.

Smart Machine



Intuitive operation & one-touch operation

Self-explanatory navigation

Ergonomic panel

Future-oriented technologies

Assistance systems

Individually, tailored to the operator

Smart Functions

iQ weight control*

Constant filling under changing conditions

Mold parallelism measurement

Mold parallelism measurement and clamping force optimization

Mold protection*

Precision monitoring during the whole injection molding process



ecograph

Display of energy consumption for last and current cycle.



ecobalance*

Intercept of power peaks and uniform distribution of the total energy demand across the cycle.



Micrograph

Recording process parameters for quality control purposes that helps you analyze, optimize and monitor the process.



Autoprotect injection monitoring

Self-learning system for highly sensitive mold protection during injection.



Program parameter limits*

Specifying the input range for up to 150 parameters individually to prevent setting of illogical or severely deviating.



e-help

Information on the most important functions and operations of a system directly at the machine.

For more options, please contact regional sales.
*Optional functions

Clamping Unit										
		t-win 4500								
Clamping force	kN	4500								
Opening force (pressure pad)	kN	260								
Opening force (moving cylinder)	kN	156								
Opening stroke	mm	550 - 1050								
Mold height min.	mm	350								
Mold height max.	mm	850								
Total daylight max.	mm	1400								
Platen size h x v	mm	1080 x 1180								
Dist. between tie bar h x v	mm	810 x 800								
Mold weight max.	t	6.5								
Ejector stroke	mm	250								
Ejector force	kN	105								
Dry cycle (Euromap 6) · stroke	sec · mm	2.9 · 550								
Weight CU	t	9.3								
Injection Unit										
		1510			2410			3510		
Screw diameter	mm	55	60	70	60	70	80	70	80	90
Screw stroke	mm	285			325			370		
Injection capacity max.	cm³	677	806	1097	919	1251	1634	1424	1860	2354
Shot weight max. (PS)®	g	623	741	1009	845	1151	1503	1310	1711	2166
Screw speed max.	min ⁻¹	240			200			220		
L/D ratio (3-zone screw)	L/D	20			20			22		
Plasticizing rate (3-zone screw)®	g/s	44	56	83	46	69	96	76	106	143
L/D ratio (barrier screw)	L/D	24			24			25		
Plasticizing rate (barrier screw)®	g/s	47	54	92	48	76	98	92	129	124
Injection rate max.®	cm³/s	340	405	551	368	501	654	475	620	785
Injection rate @ max. injection pressure	cm³/s	188	224	305	205	278	364	337	441	558
Injection pressure	bar	1930	1622	1192	2112	1551	1188	2106	1613	1274
Injection pressure max.	bar	2231	1875	1378	2300	1860	1424	2300	1890	1493
Nozzle penetration	mm	30			30			30		
Nozzle contact force	kN	110			110			150		
Heating wattage (incl. nozzle)	kW	19.1	20.6	23.6	21.2	24.8	28.4	33.3	35.8	40.8
Heating zones (incl. nozzle)		5	5	5	5	5	5	6	6	7
Drive power SHV1®	kW	39			53			65		
Oil reservoir capacity	l	550			550			760		
Weight IU	t	3.5			4.5			5.7		

① Values for polystyrene
 ② Values for HDPE
 ③ At (at least) 70% injection pressure
 ④ SHV1 standard / SHV2 option (450t-900t: 35kW; 1050t-1800t: 41.4kW; 2100t-4000t: 55.3kW)
 All above data only applied to standard machine
 Subject to technical alterations

Clamping Unit																
		t-win 6500														
Clamping force	kN	6500														
Opening force (pressure pad)	kN	370														
Opening force (moving cylinder)	kN	192														
Opening stroke	mm	800 - 1350														
Mold height min.	mm	400														
Mold height max.	mm	950														
Total daylight max.	mm	1750														
Platen size h x v	mm	1380 x 1320														
Dist. between tie bar h x v	mm	1040 x 910														
Mold weight max.	t	9.5														
Ejector stroke	mm	250														
Ejector force	kN	105														
Dry cycle (Euromap 6) · stroke	sec • mm	3.7 • 750														
Weight CU	t	13.7														
Injection Unit																
		1510			2410			3510			5210			8210		
Screw diameter	mm	55	60	70	60	70	80	70	80	90	80	90	105	90	105	120
Screw stroke	mm	285			325			370			450			510		
Injection capacity max.	cm³	677	806	1097	919	1251	1634	1424	1860	2354	2262	2863	3897	3244	4416	5768
Shot weight max. (PS)®	g	623	741	1009	845	1151	1503	1310	1711	2166	2081	2634	3585	2985	4063	5307
Screw speed max.	min ⁻¹	240			200			220			175			130		
L/D ratio (3-zone screw)	L/D	20			20			22			22			22		
Plasticizing rate (3-zone screw)®	g/s	44	56	83	46	69	96	76	106	143	84	113	167	84	124	173
L/D ratio (barrier screw)	L/D	24			24			25			25			25		
Plasticizing rate (barrier screw)®	g/s	47	54	92	48	76	98	92	129	124	103	138	148	102	151	120
Injection rate max.®	cm³/s	340	405	551	368	501	654	475	620	785	583	737	1004	655	892	1165
Injection rate @ max. injection pressure	cm³/s	188	224	305	205	278	364	337	441	558	388	491	668	433	589	769
Injection pressure	bar	1930	1622	1192	2112	1551	1188	2106	1613	1274	1974	1560	1146	2155	1583	1212
Injection pressure max.	bar	2231	1875	1378	2300	1860	1424	2300	1890	1493	2300	1834	1348	2300	1858	1423
Nozzle penetration	mm	30			30			30			30			30		
Nozzle contact force	kN	110			110			150			150			150		
Heating wattage (incl. nozzle)	kW	19.1	20.6	23.6	21.2	24.8	28.4	33.3	35.8	40.8	35.8	40.8	48.3	42.1	50.3	55.8
Heating zones (incl. nozzle)		5	5	5	5	5	5	6	6	7	6	7	7	7	7	7
Drive power SHV1®	kW	39			53			65			78			110		
Oil reservoir capacity	l	550			550			760			760			1100		
Weight IU	t	3.5			4.5			5.7			6.2			9.0		

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Clamping Unit																
		t-win 7500														
Clamping force	kN	7500														
Opening force (pressure pad)	kN	490														
Opening force (moving cylinder)	kN	192														
Opening stroke	mm	900 - 1400														
Mold height min.	mm	450														
Mold height max.	mm	950														
Total daylight max.	mm	1850														
Platen size h x v	mm	1520 x 1440														
Dist. between tie bar h x v	mm	1120 x 960														
Mold weight max.	t	11.0														
Ejector stroke	mm	300														
Ejector force	kN	230														
Dry cycle (Euromap 6) · stroke	sec • mm	3.9 • 800														
Weight CU	t	17.0														
Injection Unit																
		2410			3510			5210			8210			11610		
Screw diameter	mm	60	70	80	70	80	90	80	90	105	90	105	120	105	120	135
Screw stroke	mm	325			370			450			510			550		
Injection capacity max.	cm³	919	1251	1634	1424	1860	2354	2262	2863	3897	3244	4416	5768	4762	6220	7873
Shot weight max. (PS)®	g	845	1151	1503	1310	1711	2166	2081	2634	3585	2985	4063	5307	4381	5723	7243
Screw speed max.	min ⁻¹	200			220			175			130			95		
L/D ratio (3-zone screw)	L/D	20			22			22			22			22		
Plasticizing rate (3-zone screw)®	g/s	46	69	96	76	106	143	84	113	167	84	124	173	90	126	169
L/D ratio (barrier screw)	L/D	24			25			25			25			25		
Plasticizing rate (barrier screw)®	g/s	48	76	98	92	129	124	103	138	148	102	151	120	110	154	133
Injection rate max.®	cm³/s	368	501	654	475	620	785	583	737	1004	655	892	1165	868	1135	1435
Injection rate @ max. injection pressure	cm³/s	205	278	364	337	441	558	388	491	668	433	589	769	563	735	930
Injection pressure	bar	2112	1551	1188	2106	1613	1274	1974	1560	1146	2155	1583	1212	2036	1558	1231
Injection pressure max.	bar	2300	1860	1424	2300	1890	1493	2300	1834	1348	2300	1858	1423	2300	1834	1449
Nozzle penetration	mm	30			30			30			30			30		
Nozzle contact force	kN	110			150			150			150			150		
Heating wattage (incl. nozzle)	kW	21.2	24.8	28.4	33.3	35.8	40.8	35.8	40.8	48.3	42.1	50.3	55.8	50.3	55.8	64.1
Heating zones (incl. nozzle)		5	5	5	6	6	7	6	7	7	7	7	7	7	7	7
Drive power SHV1®	kW	53			65			78			110			110		
Oil reservoir capacity	l	550			760			760			1100			1100		
Weight IU	t	4.5			5.7			6.2			9.0			10.3		

① Values for polystyrene
 ② Values for HDPE
 ③ At (at least) 70% injection pressure
 ④ SHV1 standard / SHV2 option (450t-900t: 35kW; 1050t-1800t: 41.4kW; 2100t-4000t: 55.3kW)
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Clamping Unit																
		t-win 9000														
Clamping force	kN	9000														
Opening force (pressure pad)	kN	587														
Opening force (moving cylinder)	kN	284														
Opening stroke	mm	1000 - 1600														
Mold height min.	mm	500														
Mold height max.	mm	1100														
Total daylight max.	mm	2100														
Platen size h x v	mm	1540 x 1510														
Dist. between tie bar h x v	mm	1180 x 1000														
Mold weight max.	t	13.0														
Ejector stroke	mm	300														
Ejector force	kN	230														
Dry cycle (Euromap 6) · stroke	sec • mm	4.3 • 850														
Weight CU	t	21.7														
Injection Unit																
		3510			5210			8210			11610			16610		
Screw diameter	mm	70	80	90	80	90	105	90	105	120	105	120	135	120	135	150
Screw stroke	mm	370			450			510			550			630		
Injection capacity max.	cm³	1424	1860	2354	2262	2863	3897	3244	4416	5768	4762	6220	7873	7125	9018	11133
Shot weight max. (PS)®	g	1310	1711	2166	2081	2634	3585	2985	4063	5307	4381	5723	7243	6555	8296	10242
Screw speed max.	min ⁻¹	220			175			130			95			90		
L/D ratio (3-zone screw)	L/D	22			22			22			22			22		
Plasticizing rate (3-zone screw)®	g/s	76	106	143	84	113	167	84	124	173	90	126	169	119	160	209
L/D ratio (barrier screw)	L/D	25			25			25			25			25		
Plasticizing rate (barrier screw)®	g/s	92	129	124	103	138	148	102	151	120	110	154	133	146	196	187
Injection rate max.®	cm³/s	475	620	785	583	737	1004	655	892	1165	868	1135	1435	1053	1332	1645
Injection rate @ max. injection pressure	cm³/s	337	441	558	388	491	668	433	589	769	563	735	930	735	930	1148
Injection pressure	bar	2106	1613	1274	1974	1560	1146	2155	1583	1212	2036	1558	1231	1980	1564	1267
Injection pressure max.	bar	2300	1890	1493	2300	1834	1348	2300	1858	1423	2300	1834	1449	2300	1830	1482
Nozzle penetration	mm	30			30			30			30			30		
Nozzle contact force	kN	150			150			150			150			150		
Heating wattage (incl. nozzle)	kW	33.3	35.8	40.8	35.8	40.8	48.3	42.1	50.3	55.8	50.3	55.8	64.1	66.4	77.4	87.4
Heating zones (incl. nozzle)		6	6	7	6	7	7	7	7	7	7	7	7	7	7	7
Drive power SHV1®	kW	65			78			110			110			140		
Oil reservoir capacity	l	760			760			1100			1100			1600		
Weight IU	t	5.7			6.2			9.0			10.3			15.6		

① Values for polystyrene
 ② Values for HDPE
 ③ At (at least) 70% injection pressure
 ④ SHV1 standard / SHV2 option (450t-900t: 35kW; 1050t-1800t: 41.4kW; 2100t-4000t: 55.3kW)
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Clamping Unit																				
		t-win 10500																		
Clamping force	kN	10500																		
Opening force (pressure pad)	kN	620																		
Opening force (moving cylinder)	kN	284																		
Opening stroke	mm	1000 - 1600																		
Mold height min.	mm	500																		
Mold height max.	mm	1100																		
Total daylight max.	mm	2100																		
Platen size h x v	mm	1630 x 1610																		
Dist. between tie bar h x v	mm	1270 x 1100																		
Mold weight max.	t	13.0																		
Ejector stroke	mm	300																		
Ejector force	kN	230																		
Dry cycle (Euromap 6) · stroke	sec · mm	4.6 · 900																		
Weight CU	t	23.9																		
Injection Unit																				
		3510			5210			8210			11610			16610			22010			
Screw diameter	mm	70	80	90	80	90	105	90	105	120	105	120	135	120	135	150	135	150	160	170
Screw stroke	mm	370			450			510			550			630			680			
Injection capacity max.	cm³	1424	1860	2354	2262	2863	3897	3244	4416	5768	4762	6220	7873	7125	9018	11133	9733	12017	13672	15435
Shot weight max. (PS)®	g	1310	1711	2166	2081	2634	3585	2985	4063	5307	4381	5723	7243	6555	8296	10242	8955	11055	12578	14200
Screw speed max.	min ⁻¹	220			175			130			95			90			90			
L/D ratio (3-zone screw)	L/D	22			22			22			22			22			22			
Plasticizing rate (3-zone screw)®	g/s	76	106	143	84	113	167	84	124	173	90	126	169	119	160	209	160	209	240	286
L/D ratio (barrier screw)	L/D	25			25			25			25			25			25			
Plasticizing rate (barrier screw)®	g/s	92	129	124	103	138	148	102	151	120	110	154	133	146	196	187	195	252	245	188
Injection rate max.®	cm³/s	475	620	785	583	737	1004	655	892	1165	868	1135	1435	1053	1332	1645	1360	1678	1910	2157
Injection rate @ max. injection pressure	cm³/s	337	441	558	388	491	668	433	589	769	563	735	930	735	930	1148	888	1096	1248	1408
Injection pressure	bar	2106	1613	1274	1974	1560	1146	2155	1583	1212	2036	1558	1231	1980	1564	1267	1873	1517	1333	1181
Injection pressure max.	bar	2300	1890	1493	2300	1834	1348	2300	1858	1423	2300	1834	1449	2300	1830	1482	2200	1824	1603	1420
Nozzle penetration	mm	30			30			30			30			30			30			
Nozzle contact force	kN	150			150			150			150			150			150			
Heating wattage (incl. nozzle)	kW	33.3	35.8	40.8	35.8	40.8	48.3	42.1	50.3	55.8	50.3	55.8	64.1	66.4	77.4	87.4	77.4	87.4	92.4	97.4
Heating zones (incl. nozzle)		6	6	7	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Drive power SHV1®	kW	65			78			110			110			140			156			
Oil reservoir capacity	l	760			760			1100			1100			1600			1600			
Weight IU	t	5.7			6.2			9.0			10.3			15.6			16.2			

① Values for polystyrene
 ② Values for HDPE
 ③ At (at least) 70% injection pressure
 ④ SHV1 standard / SHV2 option (450t-900t: 35kW; 1050t-1800t: 41.4kW; 2100t-4000t: 55.3kW)
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Clamping Unit																	
		t-win 14000															
Clamping force	kN	14000															
Opening force (pressure pad)	kN	760															
Opening force (moving cylinder)	kN	284															
Opening stroke	mm	1200 - 1800															
Mold height min.	mm	600															
Mold height max.	mm	1200															
Total daylight max.	mm	2400															
Platen size h x v	mm	1870 x 1960															
Dist. between tie bar h x v	mm	1470 x 1360															
Mold weight max.	t	21.0															
Ejector stroke	mm	300															
Ejector force	kN	260															
Dry cycle (Euromap 6) · stroke	sec • mm	5.1 • 1050															
Weight CU	t	38.8															
Injection Unit																	
		5210			8210			11610			16610			22010			
Screw diameter	mm	80	90	105	90	105	120	105	120	135	120	135	150	135	150	160	170
Screw stroke	mm	450			510			550			630			680			
Injection capacity max.	cm³	2262	2863	3897	3244	4416	5768	4762	6220	7873	7125	9018	11133	9733	12017	13672	15435
Shot weight max. (PS)®	g	2081	2634	3585	2985	4063	5307	4381	5723	7243	6555	8296	10242	8955	11055	12578	14200
Screw speed max.	min ⁻¹	175			130			95			90			90			
L/D ratio (3-zone screw)	L/D	22			22			22			22			22			
Plasticizing rate (3-zone screw)®	g/s	84	113	167	84	124	173	90	126	169	119	160	209	160	209	240	286
L/D ratio (barrier screw)	L/D	25			25			25			25			25			
Plasticizing rate (barrier screw)®	g/s	103	138	148	102	151	120	110	154	133	146	196	187	195	252	245	188
Injection rate max.®	cm³/s	583	737	1004	655	892	1165	868	1135	1435	1053	1332	1645	1360	1678	1910	2157
Injection rate @ max. injection pressure	cm³/s	388	491	668	433	589	769	563	735	930	735	930	1148	888	1096	1248	1408
Injection pressure	bar	1974	1560	1146	2155	1583	1212	2036	1558	1231	1980	1564	1267	1873	1517	1333	1181
Injection pressure max.	bar	2300	1834	1348	2300	1858	1423	2300	1834	1449	2300	1830	1482	2200	1824	1603	1420
Nozzle penetration	mm	50			50			50			50			50			
Nozzle contact force	kN	150			150			150			150			150			
Heating wattage (incl. nozzle)	kW	35.8	40.8	48.3	42.1	50.3	55.8	50.3	55.8	64.1	66.4	77.4	87.4	77.4	87.4	92.4	97.4
Heating zones (incl. nozzle)		6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Drive power SHV1®	kW	78			110			110			140			156			
Oil reservoir capacity	l	760			1100			1100			1600			1600			
Weight IU	t	6.2			9.0			10.3			15.6			16.2			

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 All above data only applied to standard machine
 Subject to technical alterations

Clamping Unit																	
		t-win 16000															
Clamping force	kN	16000															
Opening force (pressure pad)	kN	1000															
Opening force (moving cylinder)	kN	393															
Opening stroke	mm	1650 - 2350															
Mold height min.	mm	700															
Mold height max.	mm	1400															
Total daylight max.	mm	3050															
Platen size h x v	mm	2160 x 2050															
Dist. between tie bar h x v	mm	1550 x 1450															
Mold weight max.	t	25.0															
Ejector stroke	mm	300															
Ejector force	kN	260															
Dry cycle (Euromap 6) · stroke	sec • mm	6.0 • 1100															
Weight CU	t	45.3															
Injection Unit																	
		8210			11610			16610			22010				43210		
Screw diameter	mm	90	105	120	105	120	135	120	135	150	135	150	160	170	170	190	200
Screw stroke	mm	510			550			630			680				1050		
Injection capacity max.	cm³	3244	4416	5768	4762	6220	7873	7125	9018	11133	9733	12017	13672	15435	23833	29771	32987
Shot weight max. (PS)®	g	2985	4063	5307	4381	5723	7243	6555	8296	10242	8955	11055	12578	14200	21926	27389	30348
Screw speed max.	min ⁻¹	130			95			90			90				85		
L/D ratio (3-zone screw)	L/D	22			22			22			22				/		
Plasticizing rate (3-zone screw)®	g/s	84	124	173	90	126	169	119	160	209	160	209	240	286	/	/	/
L/D ratio (barrier screw)	L/D	25			25			25			25				24		
Plasticizing rate (barrier screw)®	g/s	102	151	120	110	154	133	146	196	187	195	252	245	188	Based on application		
Injection rate max.®	cm³/s	655	892	1165	868	1135	1435	1053	1332	1645	1360	1678	1910	2157	2043	2553	2829
Injection rate @ max. injection pressure	cm³/s	433	589	769	563	735	930	735	930	1148	888	1096	1248	1408	1208	1510	1673
Injection pressure	bar	2155	1583	1212	2036	1558	1231	1980	1564	1267	1873	1517	1333	1181	1496	1198	1081
Injection pressure max.	bar	2300	1858	1423	2300	1834	1449	2300	1830	1482	2200	1824	1603	1420	1815	1453	1311
Nozzle penetration	mm	50			50			50			50				50		
Nozzle contact force	kN	150			150			150			150				210		
Heating wattage (incl. nozzle)	kW	42.1	50.3	55.8	50.3	55.8	64.1	66.4	77.4	87.4	77.4	87.4	92.4	97.4	140.0	156.0	166.0
Heating zones (incl. nozzle)		7	7	7	7	7	7	7	7	7	7	7	7	7	9	10	10
Drive power SHV1®	kW	110			110			140			156				188		
Oil reservoir capacity	l	1100			1100			1600			1600				2150		
Weight IU	t	9.0			10.3			15.6			16.2				32.0		

① Values for polystyrene
 ② Values for HDPE
 ③ At (at least) 70% injection pressure
 ④ SHV1 standard / SHV2 option (450t-900t: 35kW; 1050t-1800t: 41.4kW; 2100t-4000t: 55.3kW)
 All above data only applied to standard machine
 Subject to technical alterations

Clamping Unit		t-win 18000																		
Clamping force	kN	18000																		
Opening force (pressure pad)	kN	1000																		
Opening force (moving cylinder)	kN	393																		
Opening stroke	mm	1650 - 2350																		
Mold height min.	mm	700																		
Mold height max.	mm	1400																		
Total daylight max.	mm	3050																		
Platen size h x v	mm	2290 x 2130																		
Dist. between tie bar h x v	mm	1680 x 1520																		
Mold weight max.	t	30.0																		
Ejector stroke	mm	300																		
Ejector force	kN	260																		
Dry cycle (Euromap 6) · stroke	sec · mm	6.2 · 1200																		
Weight CU	t	51.7																		
Injection Unit																				
		8210			11610			16610			22010				43210			56910		
Screw diameter	mm	90	105	120	105	120	135	120	135	150	135	150	160	170	170	190	200	190	210	220
Screw stroke	mm	510			550			630			680				1050			1150		
Injection capacity max.	cm³	3244	4416	5768	4762	6220	7873	7125	9018	11133	9733	12017	13672	15435	23833	29771	32987	32606	39831	43715
Shot weight max. (PS)®	g	2985	4063	5307	4381	5723	7243	6555	8296	10242	8955	11055	12578	14200	21926	27389	30348	29997	36645	40218
Screw speed max.	min ⁻¹	130			95			90			90				85			70		
L/D ratio (3-zone screw)	L/D	22			22			22			22				/			/		
Plasticizing rate (3-zone screw)®	g/s	84	124	173	90	126	169	119	160	209	160	209	240	286	/	/	/	/	/	/
L/D ratio (barrier screw)	L/D	25			25			25			25				24			24		
Plasticizing rate (barrier screw)®	g/s	102	151	120	110	154	133	146	196	187	195	252	245	188	Based on application			Based on application		
Injection rate max.®	cm³/s	655	892	1165	868	1135	1435	1053	1332	1645	1360	1678	1910	2157	2043	2553	2829	2230	2730	2996
Injection rate @ max. injection pressure	cm³/s	433	589	769	563	735	930	735	930	1148	888	1096	1248	1408	1208	1510	1673	1324	1617	1775
Injection pressure	bar	2155	1583	1212	2036	1558	1231	1980	1564	1267	1873	1517	1333	1181	1496	1198	1081	1426	1167	1064
Injection pressure max.	bar	2300	1858	1423	2300	1834	1449	2300	1830	1482	2200	1824	1603	1420	1815	1453	1311	1745	1429	1302
Nozzle penetration	mm	50			50			50			50				50			50		
Nozzle contact force	kN	150			150			150			150				210			210		
Heating wattage (incl. nozzle)	kW	42.1	50.3	55.8	50.3	55.8	64.1	66.4	77.4	87.4	77.4	87.4	92.4	97.4	140.0	156.0	166.0	156.0	172.0	183.0
Heating zones (incl. nozzle)		7	7	7	7	7	7	7	7	7	7	7	7	7	9	10	10	10	10	10
Drive power SHV1®	kW	110			110			140			156				188			220		
Oil reservoir capacity	l	1100			1100			1600			1600				2150			2150		
Weight IU	t	9.0			10.3			15.6			16.2				32.0			36.0		

① Values for polystyrene
② Values for HDPE
③ At (at least) 70% injection pressure
④ SHV1 standard / SHV2 option (450t-900t: 35kW; 1050t-1800t: 41.4kW; 2100t-4000t: 55.3kW)
All above data only applied to standard machine
Subject to technical alterations

Clamping Unit																	
		t-win 21000															
Clamping force	kN	21000															
Opening force (pressure pad)	kN	1350															
Opening force (moving cylinder)	kN	614															
Opening stroke	mm	2000 - 3000															
Mold height min.	mm	800															
Mold height max.	mm	1800															
Total daylight max.	mm	3800															
Platen size h x v	mm	2420 x 2360															
Dist. between tie bar h x v	mm	1800 x 1600															
Mold weight max.	t	50.0															
Ejector stroke	mm	500															
Ejector force	kN	420															
Dry cycle (Euromap 6) · stroke	sec • mm	7.2 • 1250															
Weight CU	t	71.5															
Injection Unit																	
		11610			16610			22010				43210			56910		
Screw diameter	mm	105	120	135	120	135	150	135	150	160	170	170	190	200	190	210	220
Screw stroke	mm	550			630			680				1050			1150		
Injection capacity max.	cm³	4762	6220	7873	7125	9018	11133	9733	12017	13672	15435	23833	29771	32987	32606	39831	43715
Shot weight max. (PS)®	g	4381	5723	7243	6555	8296	10242	8955	11055	12578	14200	21926	27389	30348	29997	36645	40218
Screw speed max.	min ⁻¹	95			90			90				85			70		
L/D ratio (3-zone screw)	L/D	22			22			22				/			/		
Plasticizing rate (3-zone screw)®	g/s	90	126	169	119	160	209	160	209	240	286	/	/	/	/	/	/
L/D ratio (barrier screw)	L/D	25			25			25				24			24		
Plasticizing rate (barrier screw)®	g/s	110	154	133	146	196	187	195	252	245	188	Based on application			Based on application		
Injection rate max.®	cm³/s	868	1135	1435	1053	1332	1645	1360	1678	1910	2157	2043	2553	2829	2230	2730	2996
Injection rate @ max. injection pressure	cm³/s	563	735	930	735	930	1148	888	1096	1248	1408	1208	1510	1673	1324	1617	1775
Injection pressure	bar	2036	1558	1231	1980	1564	1267	1873	1517	1333	1181	1496	1198	1081	1426	1167	1064
Injection pressure max.	bar	2300	1834	1449	2300	1830	1482	2200	1824	1603	1420	1815	1453	1311	1745	1429	1302
Nozzle penetration	mm	50			50			50				50			50		
Nozzle contact force	kN	150			150			150				210			210		
Heating wattage (incl. nozzle)	kW	50.3	55.8	64.1	66.4	77.4	87.4	77.4	87.4	92.4	97.4	140.0	156.0	166.0	156.0	172.0	183.0
Heating zones (incl. nozzle)		7	7	7	7	7	7	7	7	7	7	9	10	10	10	10	10
Drive power SHV1®	kW	110			140			156				188			220		
Oil reservoir capacity	l	1100			1600			1600				2150			2150		
Weight IU	t	10.3			15.6			16.2				32.0			36.0		

① Values for polystyrene
② Values for HDPE
③ At (at least) 70% injection pressure
④ SHV1 standard / SHV2 option (450t-900t: 35kW; 1050t-1800t: 41.4kW; 2100t-4000t: 55.3kW)
All above data only applied to standard machine
Subject to technical alterations

Clamping Unit																	
		t-win 24000															
Clamping force	kN	24000															
Opening force (pressure pad)	kN	1600															
Opening force (moving cylinder)	kN	614															
Opening stroke	mm	2000 - 3000															
Mold height min.	mm	800															
Mold height max.	mm	1800															
Total daylight max.	mm	3800															
Platen size h x v	mm	2600 x 2520															
Dist. between tie bar h x v	mm	1900 x 1700															
Mold weight max.	t	62.0															
Ejector stroke	mm	500															
Ejector force	kN	420															
Dry cycle (Euromap 6) · stroke	sec • mm	7.6 • 1350															
Weight CU	t	83.0															
Injection Unit																	
		11610			16610			22010				43210			56910		
Screw diameter	mm	105	120	135	120	135	150	135	150	160	170	170	190	200	190	210	220
Screw stroke	mm	550			630			680				1050			1150		
Injection capacity max.	cm³	4762	6220	7873	7125	9018	11133	9733	12017	13672	15435	23833	29771	32987	32606	39831	43715
Shot weight max. (PS)®	g	4381	5723	7243	6555	8296	10242	8955	11055	12578	14200	21926	27389	30348	29997	36645	40218
Screw speed max.	min ⁻¹	95			90			90				85			70		
L/D ratio (3-zone screw)	L/D	22			22			22				/			/		
Plasticizing rate (3-zone screw)®	g/s	90	126	169	119	160	209	160	209	240	286	/	/	/	/	/	/
L/D ratio (barrier screw)	L/D	25			25			25				24			24		
Plasticizing rate (barrier screw)®	g/s	110	154	133	146	196	187	195	252	245	188	Based on application			Based on application		
Injection rate max.®	cm³/s	868	1135	1435	1053	1332	1645	1360	1678	1910	2157	2043	2553	2829	2230	2730	2996
Injection rate @ max. injection pressure	cm³/s	563	735	930	735	930	1148	888	1096	1248	1408	1208	1510	1673	1324	1617	1775
Injection pressure	bar	2036	1558	1231	1980	1564	1267	1873	1517	1333	1181	1496	1198	1081	1426	1167	1064
Injection pressure max.	bar	2300	1834	1449	2300	1830	1482	2200	1824	1603	1420	1815	1453	1311	1745	1429	1302
Nozzle penetration	mm	50			50			50				50			50		
Nozzle contact force	kN	150			150			150				210			210		
Heating wattage (incl. nozzle)	kW	50.3	55.8	64.1	66.4	77.4	87.4	77.4	87.4	92.4	97.4	140.0	156.0	166.0	156.0	172.0	183.0
Heating zones (incl. nozzle)		7	7	7	7	7	7	7	7	7	7	9	10	10	10	10	10
Drive power SHV1®	kW	110			140			156				188			220		
Oil reservoir capacity	l	1100			1600			1600				2150			2150		
Weight IU	t	10.3			15.6			16.2				32.0			36.0		

① Values for polystyrene
 ② Values for HDPE
 ③ At (at least) 70% injection pressure
 ④ SHV1 standard / SHV2 option (450t-900t: 35kW; 1050t-1800t: 41.4kW; 2100t-4000t: 55.3kW)
 All above data only applied to standard machine
 Subject to technical alterations

Clamping Unit														
		t-win 27000												
Clamping force	kN	27000												
Opening force (pressure pad)	kN	1600												
Opening force (moving cylinder)	kN	770												
Opening stroke	mm	1900 - 3100												
Mold height min.	mm	800												
Mold height max.	mm	2000												
Total daylight max.	mm	3900												
Platen size h x v	mm	2770 x 2680												
Dist. between tie bar h x v	mm	2000 x 1800												
Mold weight max.	t	75.0												
Ejector stroke	mm	500												
Ejector force	kN	420												
Dry cycle (Euromap 6) · stroke	sec • mm	7.9 • 1400												
Weight CU	t	99.6												
Injection Unit														
		16610			22010				43210			56910		
Screw diameter	mm	120	135	150	135	150	160	170	170	190	200	190	210	220
Screw stroke	mm	630			680				1050			1150		
Injection capacity max.	cm³	7125	9018	11133	9733	12017	13672	15435	23833	29771	32987	32606	39831	43715
Shot weight max. (PS)®	g	6555	8296	10242	8955	11055	12578	14200	21926	27389	30348	29997	36645	40218
Screw speed max.	min ⁻¹	90			90				85			70		
L/D ratio (3-zone screw)	L/D	22			22				/			/		
Plasticizing rate (3-zone screw)®	g/s	119	160	209	160	209	240	286	/	/	/	/	/	/
L/D ratio (barrier screw)	L/D	25			25				24			24		
Plasticizing rate (barrier screw)®	g/s	146	196	187	195	252	245	188	Based on application			Based on application		
Injection rate max.®	cm³/s	1053	1332	1645	1360	1678	1910	2157	2043	2553	2829	2230	2730	2996
Injection rate @ max. injection pressure	cm³/s	735	930	1148	888	1096	1248	1408	1208	1510	1673	1324	1617	1775
Injection pressure	bar	1980	1564	1267	1873	1517	1333	1181	1496	1198	1081	1426	1167	1064
Injection pressure max.	bar	2300	1830	1482	2200	1824	1603	1420	1815	1453	1311	1745	1429	1302
Nozzle penetration	mm	50			50				50			50		
Nozzle contact force	kN	150			150				210			210		
Heating wattage (incl. nozzle)	kW	66.4	77.4	87.4	77.4	87.4	92.4	97.4	140.0	156.0	166.0	156.0	172.0	183.0
Heating zones (incl. nozzle)		7	7	7	7	7	7	7	9	10	10	10	10	10
Drive power SHV1®	kW	140			156				188			220		
Oil reservoir capacity	l	1600			1600				2150			2150		
Weight IU	t	15.6			16.2				32.0			36.0		

① Values for polystyrene
 ② Values for HDPE
 ③ At (at least) 70% injection pressure
 ④ SHV1 standard / SHV2 option (450t-900t: 35kW; 1050t-1800t: 41.4kW; 2100t-4000t: 55.3kW)
 All above data only applied to standard machine
 Subject to technical alterations

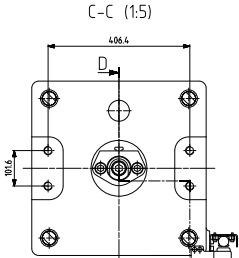
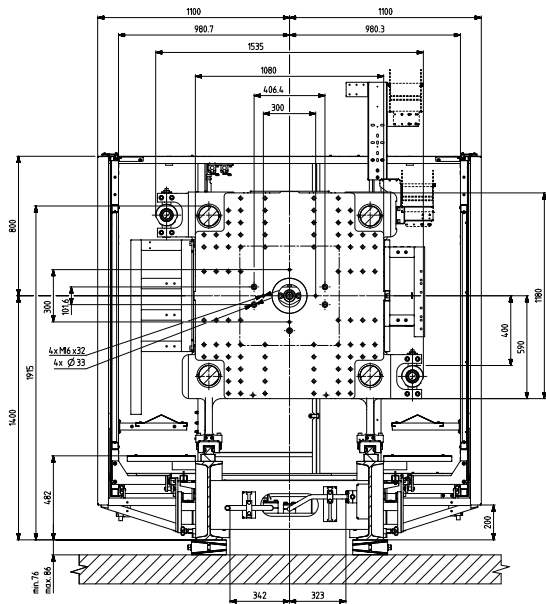
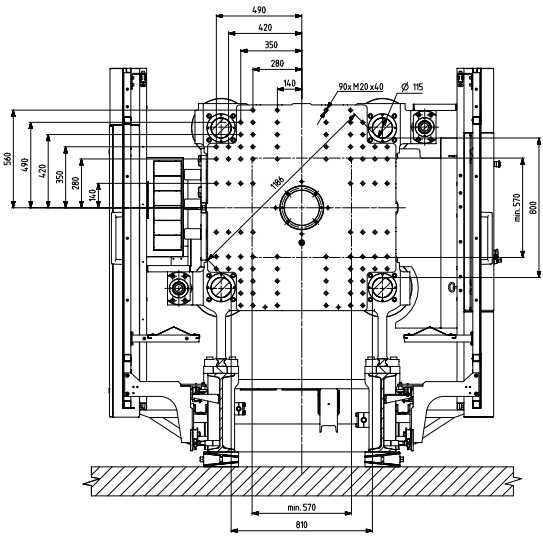
Clamping Unit														
		t-win 32000												
Clamping force	kN	32000												
Opening force (pressure pad)	kN	2030												
Opening force (moving cylinder)	kN	1005												
Opening stroke	mm	2200 - 3100												
Mold height min.	mm	1100												
Mold height max.	mm	2000												
Total daylight max.	mm	4200												
Platen size h x v	mm	3010 x 2760												
Dist. between tie bar h x v	mm	2270 x 1900												
Mold weight max.	t	81.0												
Ejector stroke	mm	500												
Ejector force	kN	420												
Dry cycle (Euromap 6) · stroke	sec • mm	9.5 • 1600												
Weight CU	t	122.5												
Injection Unit														
		16610			22010				43210			56910		
Screw diameter	mm	120	135	150	135	150	160	170	170	190	200	190	210	220
Screw stroke	mm	630			680				1050			1150		
Injection capacity max.	cm³	7125	9018	11133	9733	12017	13672	15435	23833	29771	32987	32606	39831	43715
Shot weight max. (PS)®	g	6555	8296	10242	8955	11055	12578	14200	21926	27389	30348	29997	36645	40218
Screw speed max.	min ⁻¹	90			90				85			70		
L/D ratio (3-zone screw)	L/D	22			22				/			/		
Plasticizing rate (3-zone screw)®	g/s	119	160	209	160	209	240	286	/	/	/	/	/	/
L/D ratio (barrier screw)	L/D	25			25				24			24		
Plasticizing rate (barrier screw)®	g/s	146	196	187	195	252	245	188	Based on application			Based on application		
Injection rate max.®	cm³/s	1053	1332	1645	1360	1678	1910	2157	2043	2553	2829	2230	2730	2996
Injection rate @ max. injection pressure	cm³/s	735	930	1148	888	1096	1248	1408	1208	1510	1673	1324	1617	1775
Injection pressure	bar	1980	1564	1267	1873	1517	1333	1181	1496	1198	1081	1426	1167	1064
Injection pressure max.	bar	2300	1830	1482	2200	1824	1603	1420	1815	1453	1311	1745	1429	1302
Nozzle penetration	mm	50			50				50			50		
Nozzle contact force	kN	150			150				210			210		
Heating wattage (incl. nozzle)	kW	66.4	77.4	87.4	77.4	87.4	92.4	97.4	140.0	156.0	166.0	156.0	172.0	183.0
Heating zones (incl. nozzle)		7	7	7	7	7	7	7	9	10	10	10	10	10
Drive power SHV1®	kW	140			156				188			220		
Oil reservoir capacity	l	1600			1600				2150			2150		
Weight IU	t	15.6			16.2				32.0			36.0		

① Values for polystyrene
 ② Values for HDPE
 ③ At (at least) 70% injection pressure
 ④ SHV1 standard / SHV2 option (450t-900t: 35kW; 1050t-1800t: 41.4kW; 2100t-4000t: 55.3kW)
 All above data only applied to standard machine
 Subject to technical alterations

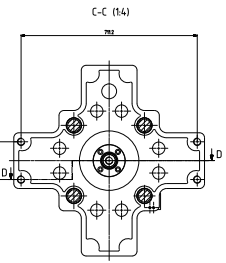
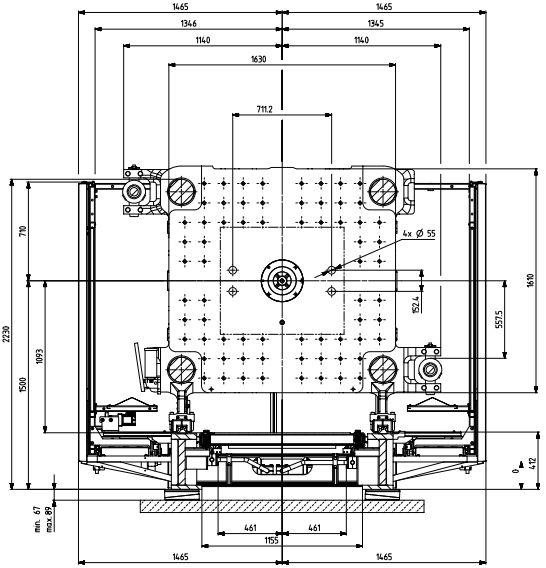
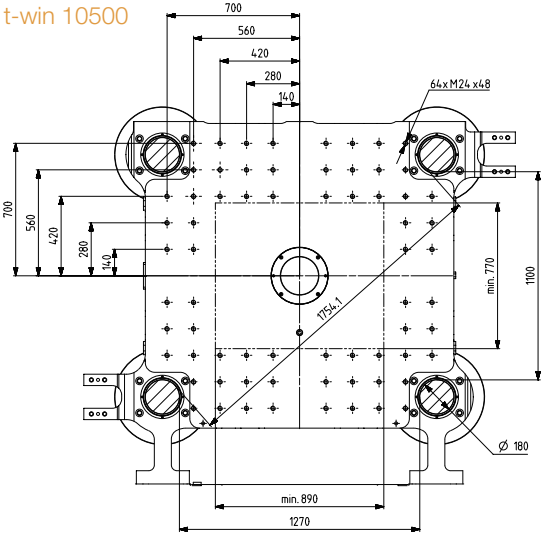
Clamping Unit											
		t-win 40000									
Clamping force	kN	40000									
Opening force (pressure pad)	kN	2450									
Opening force (moving cylinder)	kN	1005									
Opening stroke	mm	2200 - 3300									
Mold height min.	mm	1100									
Mold height max.	mm	2200									
Total daylight max.	mm	4400									
Platen size h x v	mm	3380 x 2980									
Dist. between tie bar h x v	mm	2400 x 2000									
Mold weight max.	t	90.0									
Ejector stroke	mm	500									
Ejector force	kN	420									
Dry cycle (Euromap 6) · stroke	sec • mm	9.9 • 1700									
Weight CU	t	165.0									
Injection Unit											
		22010				43210			56910		
Screw diameter	mm	135	150	160	170	170	190	200	190	210	220
Screw stroke	mm	680				1050			1150		
Injection capacity max.	cm³	9733	12017	13672	15435	23833	29771	32987	32606	39831	43715
Shot weight max. (PS)®	g	8955	11055	12578	14200	21926	27389	30348	29997	36645	40218
Screw speed max.	min ⁻¹	90				85			70		
L/D ratio (3-zone screw)	L/D	22				/			/		
Plasticizing rate (3-zone screw)®	g/s	160	209	240	286	/	/	/	/	/	/
L/D ratio (barrier screw)	L/D	25				24			24		
Plasticizing rate (barrier screw)®	g/s	195	252	245	188	Based on application			Based on application		
Injection rate max.®	cm³/s	1360	1678	1910	2157	2043	2553	2829	2230	2730	2996
Injection rate @ max. injection pressure	cm³/s	888	1096	1248	1408	1208	1510	1673	1324	1617	1775
Injection pressure	bar	1873	1517	1333	1181	1496	1198	1081	1426	1167	1064
Injection pressure max.	bar	2200	1824	1603	1420	1815	1453	1311	1745	1429	1302
Nozzle penetration	mm	50				50			50		
Nozzle contact force	kN	150				210			210		
Heating wattage (incl. nozzle)	kW	77.4	87.4	92.4	97.4	140.0	156.0	166.0	156.0	172.0	183.0
Heating zones (incl. nozzle)		7	7	7	7	9	10	10	10	10	10
Drive power SHV1®	kW	156				188			220		
Oil reservoir capacity	l	1600				2150			2150		
Weight IU	t	16.2				32.0			36.0		

① Values for polystyrene
 ② Values for HDPE
 ③ At (at least) 70% injection pressure
 ④ SHV1 standard / SHV2 option (450t-900t: 35kW; 1050t-1800t: 41.4kW; 2100t-4000t: 55.3kW)
 All above data only applied to standard machine
 Subject to technical alterations

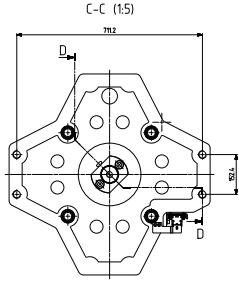
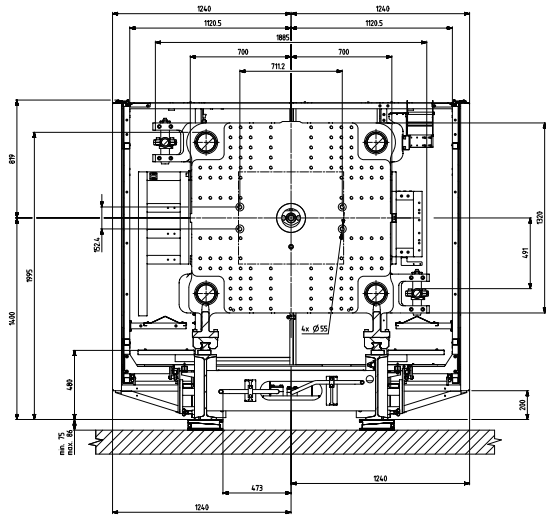
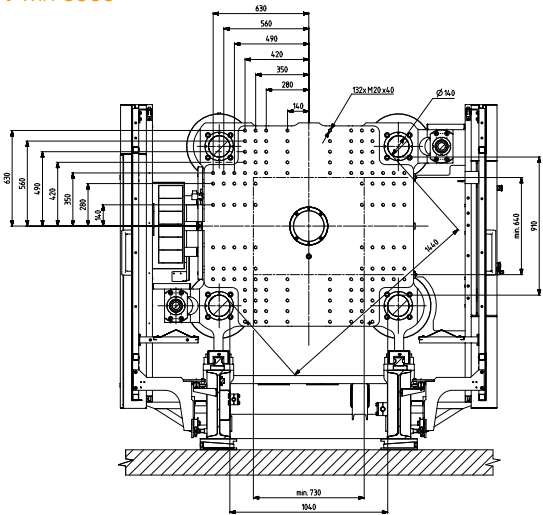
t-win 4500



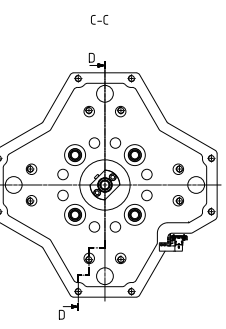
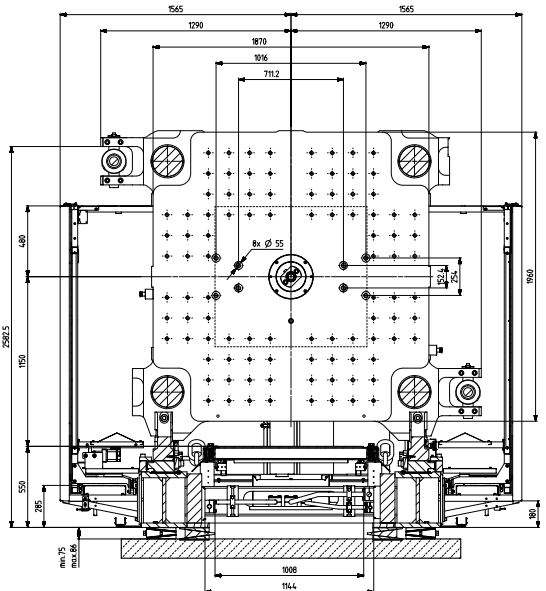
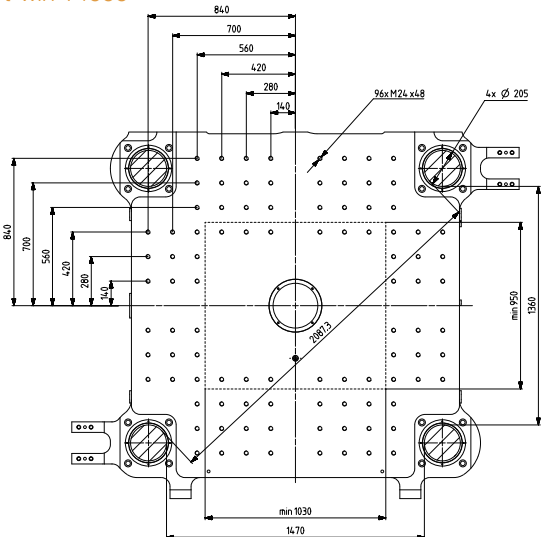
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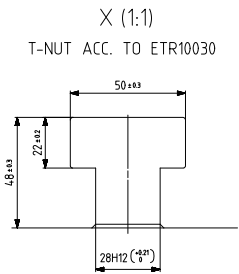
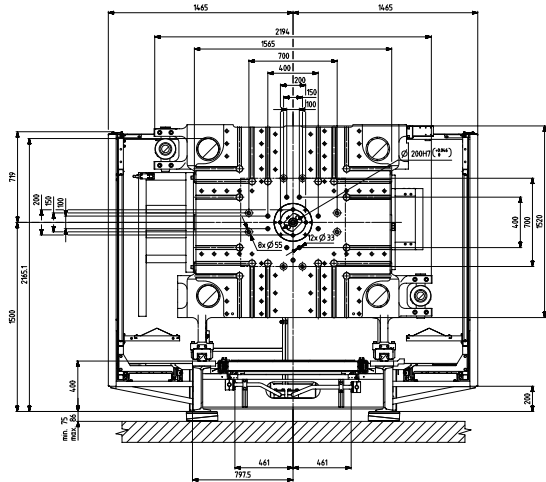
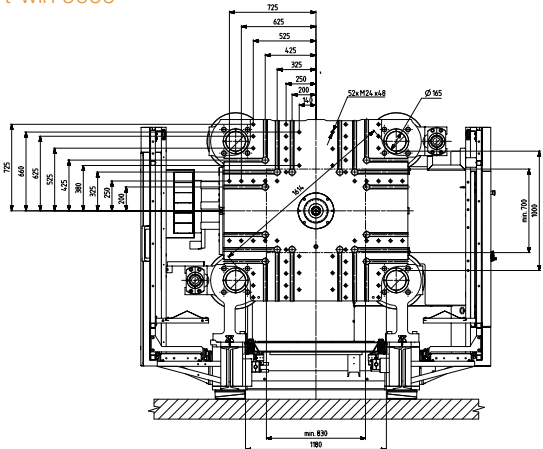
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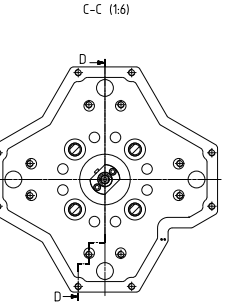
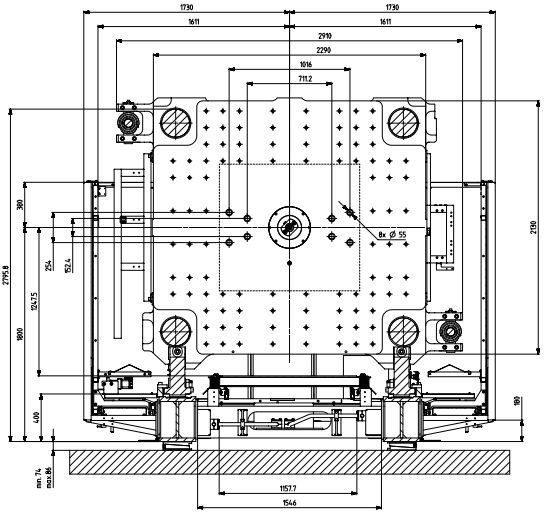
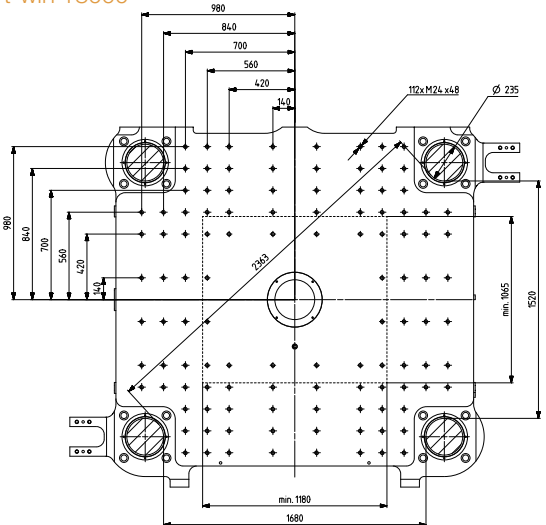
t-win 14000



t-win 9000



t-win 18000



Memo

Memo