t-win

AN ECONOMIC INNOVATION

neofyton

WINTEC
MEMBER OF THE ENGEL GROUP

WINTEC

A MEMBER OF THE ENGEL GROUP

WINTEC is ENGEL's commitment to emerging markets. With a strong belief in high quality products and reliable customer service, ENGEL has become the world's leading supplier for injection molding machines. ENGEL stands for stability and consistency.

As a 100% ENGEL designed machine, **WINTEC** is strongly committed to high quality and service standards, striving to build the most reliable and efficient injection molding machines.

WINTEC - THE RIGHT CHOICE FOR ECONOMIC INNOVATION

With a strong heritage of more than 20 years in production of 2-platen machines, ENGEL proved to be a right partner where quality, precision and reliability are needed. With **WINTEC**, ENGEL managed to designed right machine for standard applications in automotive and technical molding industry.

WINTEC injection molding machines are especially designed for maximum efficiency, strengthening your competitiveness.

WINTEC - A STRONG PARTNER NEARBY

Based in Changzhou (Province Jiangsu), production plant where WINTEC is produced according to strict ENGEL global standards, customers can rely on our consistent and trustworthy approach and as a consequence will have secured their investments long term.

t-win

ECONOMIC INNOVATION AT IT'S BEST

The servo-hydraulic driven two-platen machine **t-win** is the right machine for your injection molding needs. Due to its focused design it ensures a fast and energy efficient production: from white goods to automotive or technical parts.

WITH A T-WIN YOU WIN ON MANY LEVELS

1 **HIGHER PRODUCTIVITY**
Reduced total cycle time due to short clamping force build up time, fast movements and synchronized locking device

3 **HIGHER DURABILITY**
With an operational life span of 15 to 20 years and more every **t-win** is a safe investment

4 **OUTSTANDING REPEATABILITY**
Featuring a more powerful controller, the machine design ensures constant part quality

2 HIGHER AVAILABILITY

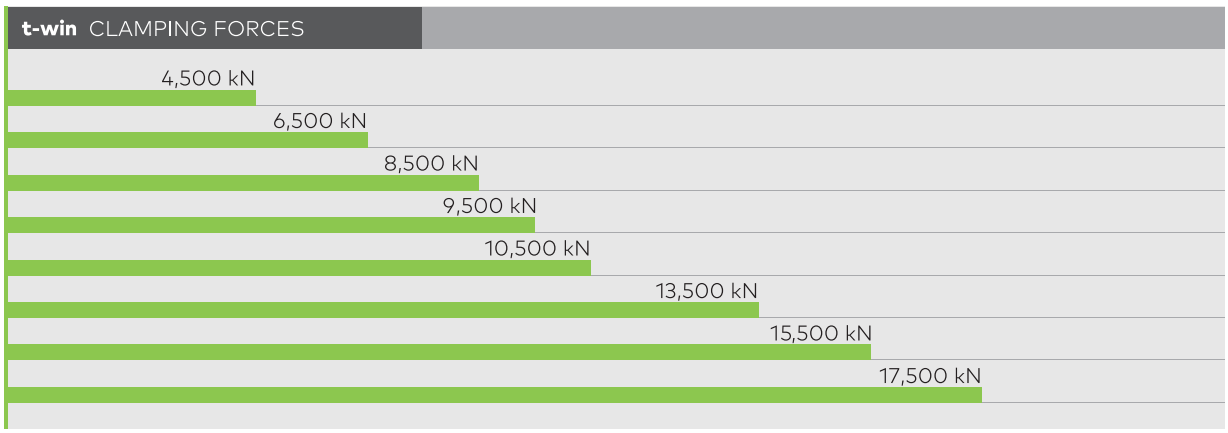
Higher output in every shift through a reliable and proven machine concept

5 LESS ENERGY CONSUMPTION

Higher energy savings come standard due to latest technology, servo drives and variable pumps

6 SMALLER FOOTPRINT

The two-platen clamping unit enables a compact design for less space requirement



t-win

EFFICIENCY MEETS RELIABILITY

A profitable production requires more than short cycle times and energy efficiency. The requirement is high performance combined with a reliable quality level for decades.

That is why we offer the most cost efficient and the most dependable injection molding machine on the market. **t-win** becomes profitable after a short period of time and ensures ensures profit after being in production for a long time.

23% HIGHER PRODUCTIVITY

t-win is designed to perform. The two-platen clamping mechanism with linear guides and synchronized locking device enables optimum platen parallelism, fast movements and short dry cycle times.
Your benefit: high output with a maximum of high quality parts.

- A short-stroke clamping cylinder and the synchronized locking device enable short clamping force build up time, resulting in a short overall cycle time
- High quality control of all movements generates best repeatability and reduces the amount of scrap parts
- Optimized control unit with 33% higher performance than the market average
- Optimum movements due to the high performance of the CPU and intelligent drive control

63% LESS ENERGY CONSUMPTION

t-win reduces energy consumption even further. Compared to conventional hydraulic machines, both the drive-integrated working point optimization **servowin** and an optimum efficiency factor at plasticizing provide best overall efficiency.
Your benefit: higher energy savings, less energy costs.

- High energy savings due to servo-hydraulics **servowin** and variable displacement pumps (2 pumps servo driven system available at surcharge)
- Best efficiency with optimum working point and efficiency factor for plasticizing
- Frictionless movements due to zero contact between the tie bars and the moving platen

98% AVAILABILITY

t-win's machine availability is among the best worldwide. A reliably working injection molding machine means less downtime, resulting in more capacity. A higher overall output results in more profit earned by machine.
Your benefit: less downtime, fast return on investment.

- Significantly higher availability
- Less downtime, more output
- Fast return on investment

100% ERGONOMIC

t-win is easy and comfortable to run. The intelligent machine design provides easy accessibility to the mold. The area is individually adaptable and easy to operate. controller Your benefit: safe operation, fast and easy maintenance.

- Nozzle center line is optimized at a low level throughout the whole **t-win** series
- Easy machine access and maintenance
- 15" display can be tilted for optimum viewing angle and high usability for every operator

22% LESS FLOOR SPACE REQUIRED

t-win's 2-platen unit has compact and space saving design. With **more power on less space**: ENGEL **t-win** stands out with its sophisticated, compact machine concept. It allows you to manufacture even parts with highest shot weights on a minimum footprint. Its proven 2-platen tehnology, the perfectly designed variable injection unit and the flexible drive design allow for a swift sequence of all processes. Smaller machine requires less floor space, which is an important factor for efficiency.

- Low footprint - more space - **higher efficiency**
- Compact machine for manufacturing "bigger" high-precision parts
- High degree of operational liability in compact design

80% INCREASED OPERATIONAL LIFE SPAN

t-win is a safe investment. An extraordinary operational life span of 15 to 20 years or more is achieved thanks to a sound design, precise processes and frictionless movement due to zero contact between tie bars and platen.
Your benefit: reduced maintenance requirements.

- **High durability** of the **t-win** series is at approximately **15** to **20 years** or more
- Zero contact
- Frictionless
- **Fast clamping force build up**
- **Short dry cycle time**
- Less maintenance costs
- No need for a replacement after a short period of time

t-win clamping unit

COMPACT TWO-PLATEN DESIGN

t-win's two platen unit is a compact and space saving design. Moreover, the sound and frictionless design of the moving platen linear bearing guarantees best possible platen parallelism and highly sensitive mold protection. This ensures the owner a high degree of operational liability and utmost part quality.

TWO RIGID PLATEN

Exceptional stiffness
Short dry cycle times
Excellent ejector accessibility
Reduced level of nozzle center

MOVEABLE PLATEN WITH LINEAR GUIDE

Perfect platen support
Exact mold guidance & platen parallelism
Energy efficient movement

NO TIE BAR GUIDING

Excellent mold protection
Frictionless movements
Clean mold area
Well proven concept

SHORT-STROKE CLAMPING CYLINDER

High locking force
Fast clamping force build-up time
Optional clamping force optimization

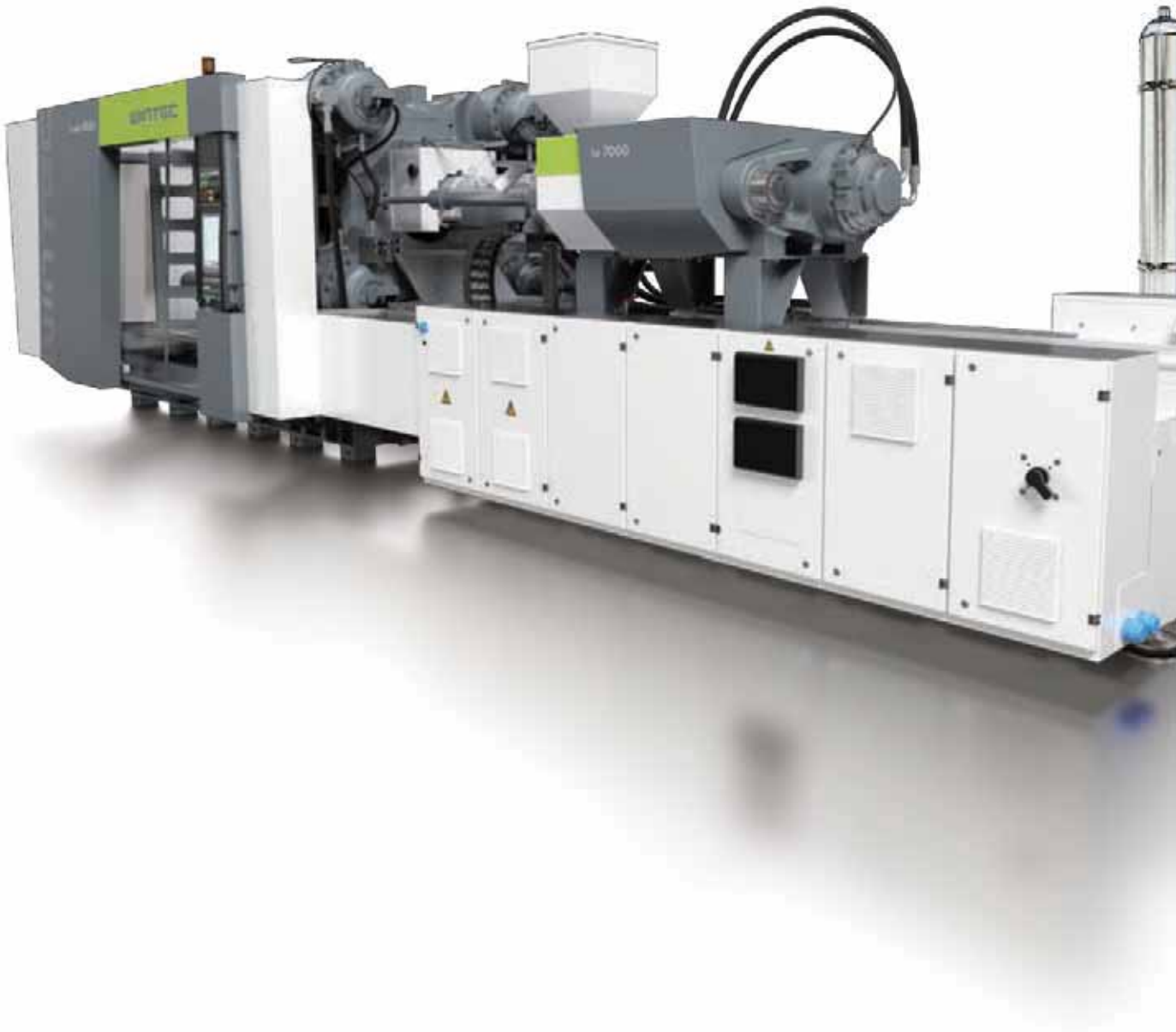
SYNCHRONIZED LOCKING DEVICE

Fast & precise
Fast locking time

t-win injection unit

EFFICIENCY COMES STANDARD

With high plasticizing capacity, **t-win**'s injection unit perfectly supports overall efficiency. The modern drive concept enables fast acceleration and low energy consumption, all while maintaining easy access and a reduced noise level.



t-win INJECTION UNIT	2000			3300			4800			7000			11000			15000			
SCREW DIAMETER mm	55	60	70	60	70	80	70	80	90	80	90	105	90	105	120	105	120	135	150
t-win 4500																			
t-win 6500																			
t-win 8500																			
t-win 9500																			
t-win 10500																			
t-win 13500																			
t-win 15500																			
t-win 17500																			

HIGH-PERFORMANCE DRIVE TECHNOLOGY **SERVOWIN**

Improved efficiency factor
Drive-integrated working point optimization
Excellent acceleration of movements
Easy access to pump cabinet and filter for maintenance
Reduced noice level

COMPACT DESIGN

Two parallel hydraulic injection pistons
Small footprint
Optimum guiding

ENERGY EFFICIENT PLASTICIZING DRIVE

High plasticizing efficiency
Drive with improved efficiency factor

ACCU ASSISTED INJECTION

Available at surcharge
Good solution to boost injection speed

SHORT SETUP TIME

Optimum accessibility to the purging area
Fast barrel change over
Variable displacement pump

t-win control unit

A NEW LEVEL OF PERFORMANCE

With **t-win**'s control unit **C2**, you are well prepared for future challenges. This optimized controller comes with 33% higher performance than the market average, a user-friendly interface and ergonomic control elements. It will keep you on top of processes that continue to become more and more complex.
Available at English and list of other local languages.

PERFORMANCE 33% ABOVE MARKET AVERAGE

Faster processing speed and improved control rate
Stable quality due to outstanding repeatability
Optimized movements due to intelligent drive control

ERGONOMIC CONTROL ELEMENTS

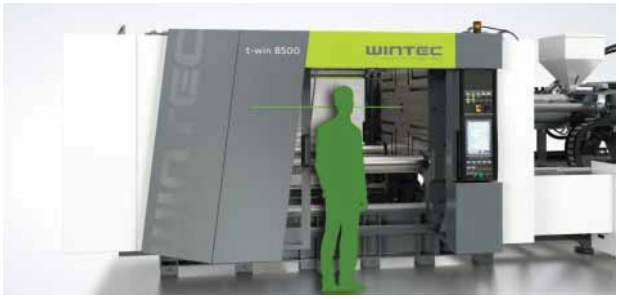
Bright, colorful and large 15" touch screen
Tilting terminal for best viewing angle and usability
Easy input via touch screen, functional graphs or keyboard pop-ups

SAVE AND AUTOMATED PRODUCTION

Trouble-free communication with peripherals
Process data acquisition
Quality data documentation
Comprehensive help function

EXTENSIVE AND USEFUL FEATURES

Comprehensive dashboard for quick insights
8 free programmable switches
2 USB-interfaces
Compact overview heating
Pictures for data set
Micrograph
Free programming of cycle sequence



t-win

A WIDE FIELD OF OPPORTUNITIES

t-win handles anything from mid-sized to large molded parts. With its clear focus on domestic, automotive and technical applications, our **t-win** series offers an excellent potential for economic success.

WHITE GOODS

AUTOMOTIVE

TECHNICAL MOLDING

t-win

A SAFE INVESTMENT

Choosing the right machine for your application is a tough decision. You want a trouble-free production, maximum output and consistent part quality. You also need a fast return on investment in order to stay profitable. In a competitive environment, choosing a low priced machine often seems like a good trade-off.

But low initial costs are no guarantee for success. An economic production requires low operational costs, reliable part quality and high machine durability in order to achieve low total costs of ownership. **t-win** offers all above stated.

A PROFITABLE OPERATION

t-win generates value throughout decades and becomes profitable after a short period of time. The superior machine concept combines all elements of an economic production, allowing you to manufacture at low costs:

- ☑ 23% higher productivity
- ☑ 63% less energy consumption
- ☑ 98% availability
- ☑ 80% increased operational life span
- ☑ 22% less footprint

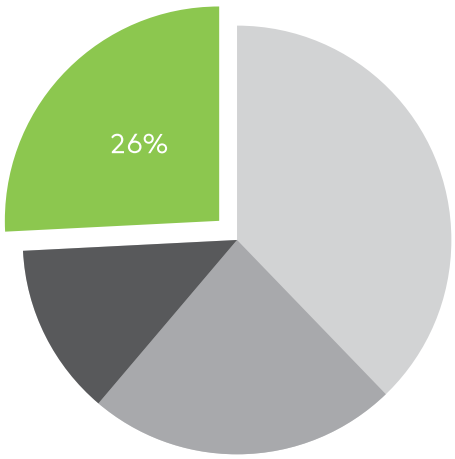
CERTIFIED EFFICIENCY

t-win easily copes with industry standards and goes way beyond.

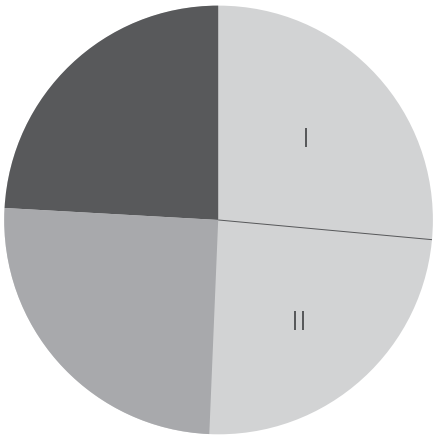
MINIMUM 26% IMPROVED TOTAL COST OF OWNERSHIP*

Throughout the operational life span of a machine, operating costs become a crucial factor when you aim to achieve low total costs of ownership. This is especially true when you have to replace a poor quality machine after a few years of unstable production. **t-win** makes the difference.

*less down time, fast return on investment



t-win



Comparable Product

Investments

Energy Costs

Spare Parts

Savings

*compared to other domestic competitors

t-win CLAMPING UNIT

		t-win 4500	t-win 6500	t-win 850
Clamping force	kN	4,500	6,500	8,500
Opening force with pressure pad	kN	260	440	510
Opening force with moving cylinder	kN	156	192	192
Opening stroke	mm	1,050	1,350	1,400
Mold height min.	mm	350	400	450
Mold height maxmax.	mm	850	950	950
Total daylight max.	mm	1,400	1,750	1,850
Platen size hor. X vert.	mm	1,100x1,190	1,420x1,370	1,510x1,44
Distance between tie bar hor. X vert.	mm	800x800	1,030x910	1,100x960
Mold weight max.	kg	6,500	9,500	11,000
Ejector stroke	mm	250	250	250
Ejector force forward/return	kN	95 / 47	95 / 47	95 / 47
Dry cycle time (Eur 6) time/ stroke	**sec**	**3.1 / 550**	**3.7 / 700**	**4.0 / 750**
Weight clamping unit	t	11	16	20

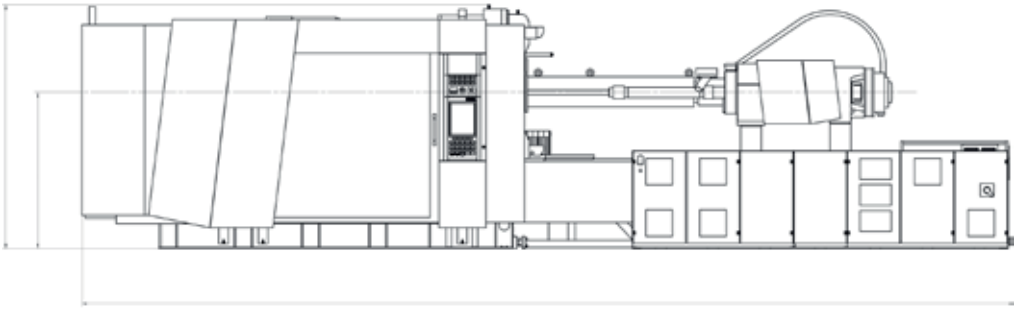
t-win INJECTION UNIT

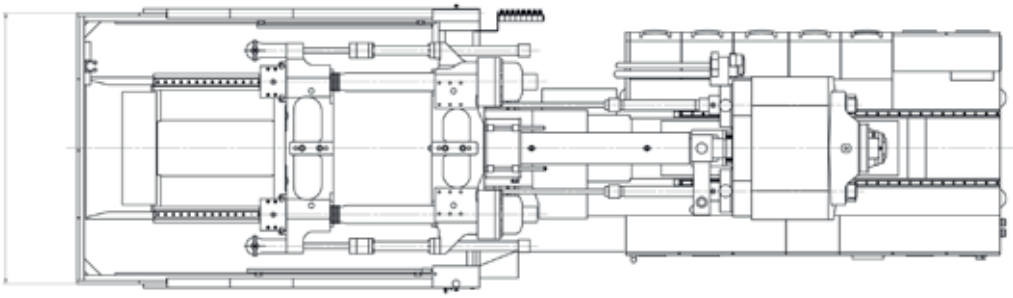
		2000			3300		
Screw diameter	**mm**	**55**	**60**	**70**	**60**	**70**	**80**
Screw stroke	mm	330	350	350	360	420	430
Injection capacity	**cm³**	**784**	**990**	**1,347**	**1,018**	**1,616**	**2,161**
Screw speed	min^{-1}	220			200		
L/D ratio	L/D	22			22		
Plasticizing rate (3-zone) *	**g/s**	**40.0**	**49.9**	**74.2**	**45.3**	**67.5**	**92.4**
Injection rate	cm^3/s	188	223	304	204	277	362
Injection rate (regenerative)	cm^3/s	216	257	350	243	331	432
Injection rate (Accu. increased)**	**cm^3/s**	**594**	**707**	**962**	**565**	**770**	**1,005**
Injection pressure (regenerative)	bar	1,990	1,730	1,270	1,940	1,690	1,290
Injection pressure max.	bar	2,300	2,000	1,469	2,300	2,000	1,531
Nozzle stroke	mm	600			600		
Nozzle contact pressure	kN	110			110		
Heating wattage (incl. nozzle)	kW	20	21	24	21	24	27
Heating zones (incl. nozzle)		5	6	6	6	6	6
Drive power	kW	53			53		
Oil reservoir capacity	l	550			550		
Weight injection unit	t	5.4			6		

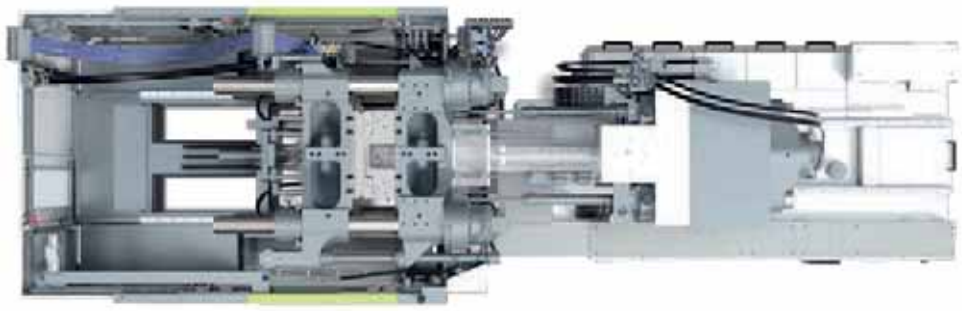
*** for polystyrene // ** Approximate values**

0	t-win 9500	t-win 10500	t-win 13500	t-win 15500	t-win 17500
	9,500	10,500	13,500	15,500	17,500
	620	620	760	1,000	1,000
	284	284	284	393	393
	1,600	1,600	1,800	2,350	2,350
	500	500	600	700	700
	1,100	1,100	1,200	1,400	1,400
	2,100	2,100	2,400	3,050	3,050
0	1,675x1,630	1,675x1,630	1,850x1,770	2,320x2,180	2,320x2,180
0	1,250x1,100	1,250x1,100	1,400x1,150	1,650x1,500	1,650x1,500
	13,000	13,000	21,000	30,000	30,000
	300	300	300	300	300
	180 / 85	180 / 85	215 / 101	230 / 108	230 / 108
0	**4.6 / 850**	4.6 / 850	**5.1 / 1,000**	**5.7 / 1,150**	**5.7 / 1,150**
	30	30	39	58	58

4800			7000			11000			15000			
70	**80**	**90**	**80**	**90**	**105**	**90**	**105**	**120**	**105**	**120**	**135**	**150**
420	480	480	480	540	550	540	630	630	630	720	730	730
1,616	**2,413**	**3,054**	**2,413**	**3,435**	**4,762**	**3,435**	**5,455**	**7,125**	**5,455**	**8,143**	**10,449**	**12,900**
	160			140			120			90		
	22			22			22			22		
54.0	**73.9**	**101.8**	**64.7**	**89.1**	**132.7**	**76.4**	**113.7**	**159.5**	**85.3**	**119.6**	**161.4**	**210.8**
258	337	426	327	414	563	388	528	690	563	735	930	1,149
304	397	503	372	471	641	471	641	837	693	905	1145	1,414
699	**913**	**1,156**	**855**	**1,272**	**1,732**	**1,083**	**1,474**	**1,925**	**1,299**	**1,696**	**2,147**	**2,651**
1,960	1,710	1,350	2,020	1,760	1,290	1,900	1,650	1,270	1,860	1,450	1,150	930
2300	2,000	1,580	2,300	2,000	1,469	2,300	2,000	1,531	2,300	1,800	1,422	1,152
	800			800			800			800		
	150			150			150			150		
23	26	29	26	29	34	45	51	57	51	57	66	72
6	6	7	6	7	7	6	6	7	6	7	7	8
	73			90			96			115		
	760			760			1,150			1,150		
	7.1			8			13.1			14.5		





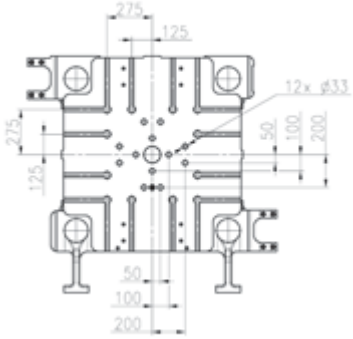


t-win MACHINE DIMENSIONS

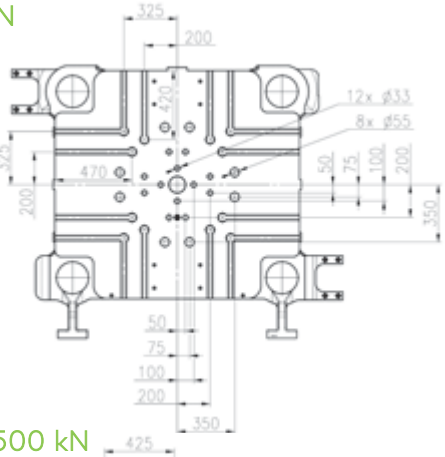
		t-win 4500 2000/3300	t-win 6500 2000/3300	t-win 6500 4800/7000	t-win 8500 2000/3300	t-win 8500 4800/7000	t-win 9500 4800/7000	t-win 9500 11000
Length (L)	mm	7,200	7,600	8,800	7,700	8,900	9,400	10,400
Width (W)	mm	2,300	2,700		2,700		3,000	
Height (H)	mm	2,400	2,400		2,400		2,600	
Height nozzle center (NC)	mm	1,400	1,400		1,500		1,500	

t-win PLATEN DIMENSIONS

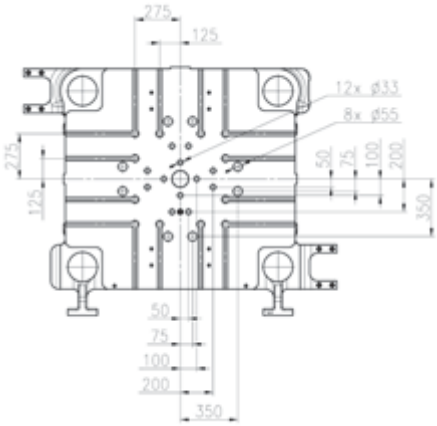
4,500 kN



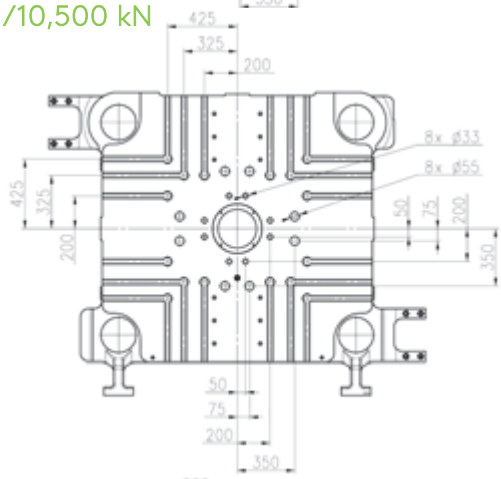
6,500 kN



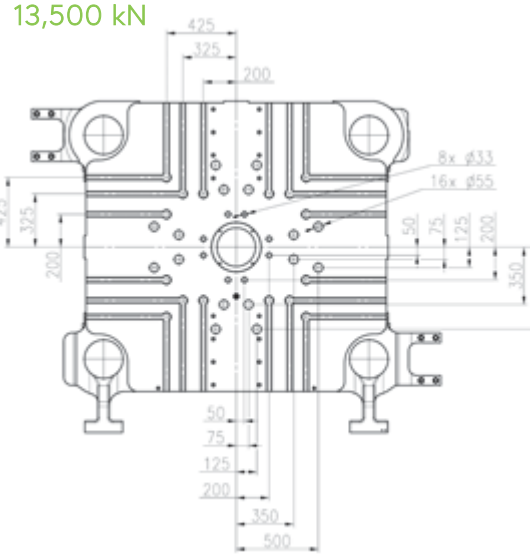
8,500 kN



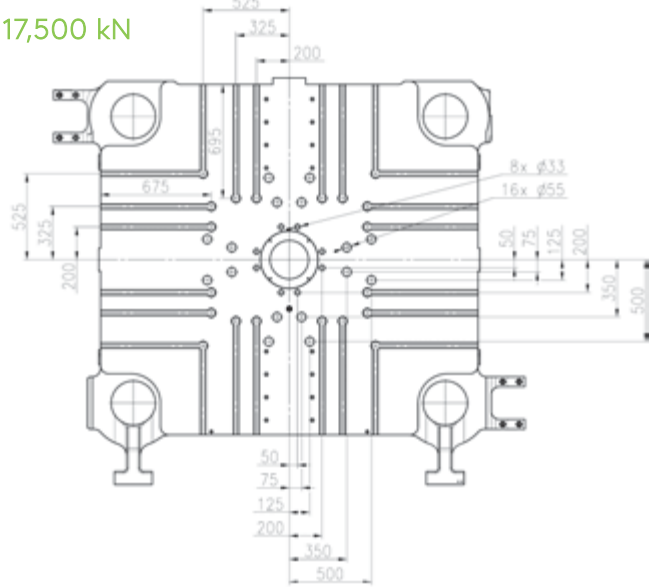
9,500 kN/10,500 kN



13,500 kN



17,500 kN



t-win 10500		t-win 13500		t-win 15500/17500	
4800/7000	11000/15000	4800/7000	11000/15000	4800/7000	11000/15000
9,400	10,400	9,800	10,800	11,500	
3,000		3,100		3,600	
2,600		2,700		3,200	
1,500		1,650		1,890	

Management system as per
GB/T 19001-2008 / ISO 9001 : 2015

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