4.4 Technical data

Machine type			TWIN 32	TWIN 42
Bed				
Design			60° angled bed	
Guides			Roller guides	
Working range				
Diameter of max. circumference		mm (in.)	145 (5.70")	145 (5.70")
Turning dia. normal		mm (in.)	100 (3.93")	100 (3.93")
Spindle spacing		mm (in.)	580 (22.83")	580 (22.83")
Cross path / longitudinal path X1/Z1	Carriage 1 (top)	mm (in.)	220/320 (8.66"/12.59")	220/320 (8.66"/12.59")
Cross path / longitudinal path X2/Z2	Carriage 2 (bottom)	mm (in.)	120/345 (4.72"/13.58")	120/345 (4.72"/13.58")
Vertical path Y1	Carriage 1	mm (in.)	± 30 (± 1.181")	± 30 (± 1.181")
Longitudinal path Z3	Spindle 2	mm (in.)	380 (14.96")	380 (14.96")
Cross stroke (Hydr.) X3	Spindle 2	mm (in.)	145 (5.70")	145 (5.70")
Spindle 1 and 2				
Chuck dia.		mm (in.)	130/140 (5.11"/5.51")	140 (5.51")
Bar dia. max.		mm (in.)	36 (1.41")	45 (1.77")
Spindle nose dia. flat flange		mm (in.)	120_{h5} (4.72")	120_{h5} (4.72")
Spindle hole dia.		mm (in.)	50 (1.96")	57 (2.24")
Chucking tube internal dia. (tension tube)		mm (in.)	37 (1.45")	46 (1.81")
Dia. in front bearing		mm (in.)	75 (2.95")	110 (4.33")
Main drive 1 and 2				
Drive rating, max.	40/100% duty cycle	kW (HP)	26/21 (34.8/28.1)	35/35 (46.9/46.9)
Rotational speed range		min^{-1} (r.p.m.)	40-8000	35-7000
Salient rotational speed		min^{-1} (r.p.m.)	2500	2240
Max. torque	40/100% duty cycle	Nm (ft.lb.)	100/80 (74/59)	200/150 (148/111)
Drive type/area figure			AC / 1	
Design			Integrated spindle motor	
C axis rotational speed (rapid traverse)		min^{-1} (r.p.m.)	2000	2000
C axis torque (stopping torque)		Nm (ft.lb.)	100 (74)	150 (111)
Carriage 1 (Design without Y axis)	**(top)**			
Rapid traverse speed	X1, 2 / X3 / Z	m/min (ft/min)	30/20/30 (862/575/862)	30/20/30 (862/575/862)
Feed force	X / Z	kN (lb.)	3.0/4.0 (674/899)	3.0/4.0 (674/899)
Path resolution	X / Z	mm (in.)	0.0005 (0.0000196")	0.0005 (0.0000196")
Motor torque	X / Z	Nm (ft.lb.)	4.8/6.4 (3.55/4.74)	4.8/6.4 (3.55/4.74)
Motor rotational speed	X / Z	min^{-1} (r.p.m.)	3000	3000
Spindle thread pitch x dia.	X1, 2 / X3 / Z	mm (in.)	20x25/10x32/20x32 (0.787x0.984") (0.393x1.259") (0.787x1.259")	20x25/10x32/20x32 (0.787x0.984") (0.393x1.259") (0.787x1.259")

Machine type			TWIN 32	TWIN 42
Carriage 1 (Design with Y axis)*	**(top)**			
Rapid traverse speed	X1,2/X3/Y/Z	m/min (ft/min)	30/20/15/30 (862/574/431/862)	30/20/15/30 (862/574/431/862)
Feed force	X/Y/Z	kN (lb.)	3.0/3.0/4.0 (674/674/899)	3.0/3.0/4.0 (674/674/899)
Path resolution	X/Y/Z	mm (in.)	0.0005 (0.0000196")	0.0005 (0.0000196")
Motor torque	X1,2/X3/Y/Z	Nm (ft.lb.)	4.8/6.4/2.4/6.4 (3.55/4.74/1.77/4.74)	4.8/6.4/2.4/6.4 (3.55/4.74/1.77/4.74)
Motor rotational speed	X/Z	min^{-1} (r.p.m.)	3000	3000
Spindle thread pitch x dia.	X1,2/X3/Y/Z	mm (in.)	20x25/10x32/20x32 (0.787x0.984")/(0.393x1.259") (0.787x1.259")	20x25/10x32/20x32 (0.787x0.984")/(0.393x1.259") (0.787x1.259")
Carriage 2	**(bottom)**			
Rapid traverse speed	X1,2/X3/Z	m/min (ft/min)	30/20/30 (862/574/862)	30/20/30 (862/574/862)
Feed force	X/Z	kN (lb.)	3.0/4.0 (674/899)	3.0/4.0 (674/899)
Path resolution	X/Z	mm (in.)	0.0005 (0.0000196")	0.0005 (0.0000196")
Motor torque	X/Z	Nm (ft.lb.)	4.8/6.4 (3.55/4.74)	4.8/6.4 (3.55/4.74)
Motor rotational speed	X/Z	min^{-1} (r.p.m.)	3000	3000
Spindle thread pitch x dia.	X1,2/X3/Z	mm (in.)	20x25/10x32/20x32 (0.787x0.984")/(0.393x1.259") (0.787x1.259")	20x25/10x32/20x32 (0.787x0.984")/(0.393x1.259") (0.787x1.259")
Carriage 3	**(Counter spindle)**			
Rapid traverse speed	Z	m/min (ft/min)	30 (862)	30 (862)
Feed force	Z	kN (lb.)	4 (899)	4 (899)
Path resolution	Z	mm (in.)	0.0005 (0.0000196")	0.0005 (0.0000196")
Motor torque	Z	Nm (ft.lb.)	6.4 (4.74)	6.4 (4.74)
Motor rotational speed	Z	min^{-1} (r.p.m.)	3000	3000
Spindle thread pitch x dia.	Z	mm (in.)	20x32 (0.787x1.259")	20x32 (0.787x1.259")
Tool holder 1 and 2				
Number of tools			12	12
Shaft dia. as per DIN69880		mm (in.)	25 (0.472")	25 (0.472")
Number of driven tool stations			12	12
Max. rating	40/100% duty cycle	kW (HP)	3.8/2.1 (5.1/2.8)	3.8/2.1 (5.1/2.8)
Max. torque	40/100% duty cycle	Nm (ft.lb.)	10.0/7.0 (7.41/5.18)	10.0/7.0 (7.41/5.18)
Rotational speed range		min^{-1} (r.p.m.)	30-6000	30-6000
Tailstock	**(Option)**			
Tailstock stroke, hydraulically actuated		mm (in.)	230 (48.425")	230 (48.425")
Tailstock force	min./max.	daN (lb.)	60/300 (132/660)	60/300 (132/660)
Lathe centre		MK	3	3
Hydraulic				
Content (compl.)		l (gal.)	10 (2.64)	10 (2.64)
Pump rating		kW (HP)	2.2 (2.9)	2.2 (2.9)
Maximum pressure		bar (psi)	50 (725)	50 (725)
Pressure for clamping device, Tailstock		bar (psi)	10-50 (145/725)	10-50 (145/725)

Machine type		TWIN 32	TWIN 42
Coolant unit			
Content	l (gal.)	220 (58.1)	220 (58.1)
Pump rating	kW (HP)	1,7 (2.279)	1,7 (2.279)
Feed rate at 6 bar	l/min (gal./min)	20 (5.28)	20 (5.28)
Electrical energy requirement			
Connected rating	kVA	40	65
Operating voltage	V	400	400
Frequency	Hz	50	50
Fuses (slow blow/VDE 0100) perm.	A	80	100
Voltage fluctuations at 400 V		+ 6% -10%	+ 6% -10%
Dimensions and weight			
Total length incl. chip conveyor	mm (in.)	4360 (171.6")	4460 (175.5")
Total depth incl. switch cabinet	mm (in.)	2342 (92.204")	2342 (92.204")
Total height incl. switch cabinet	mm (in.)	1985 (78.149")	1985 (78.149")
Machine weight incl. switch cabinet	kg (lb.)	approx. 5300 (11674)	approx. 5300 (11674)
Noise emission values (constant noise level)			
Workplace based constant noise pressure level - (DIN 45635 part 1-04.85 (ISO 3740-1980), measured as a cutting cycle as per DIN 45635 part 1601-07.78)	db(A)	77	77
- in idle run as per DIN 45635 part 1601-07.78	db(A)	78	78