



FLYMILL



Flexible High Tech Solutions for Industry
“Those who look a little harder discover a lot more”

breton
Machine Tools



FLYMILL

Customized Efficiency

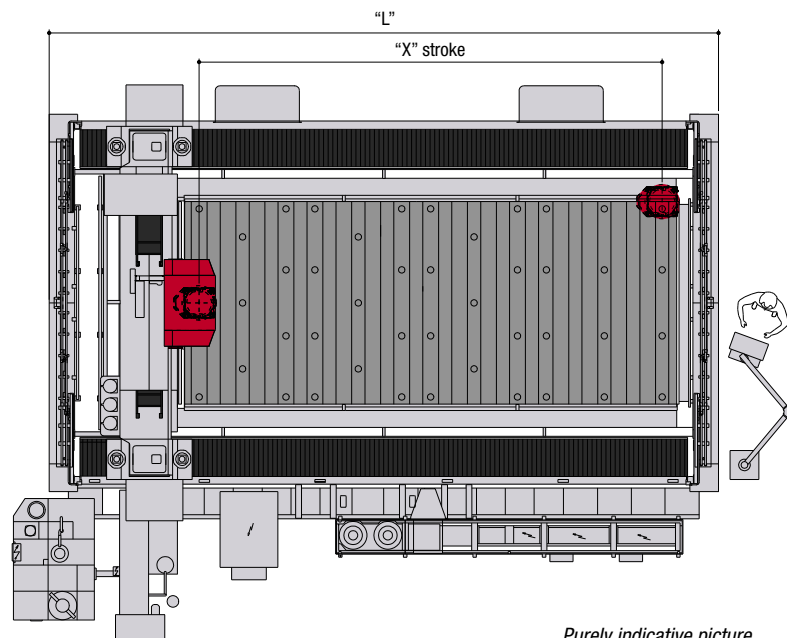
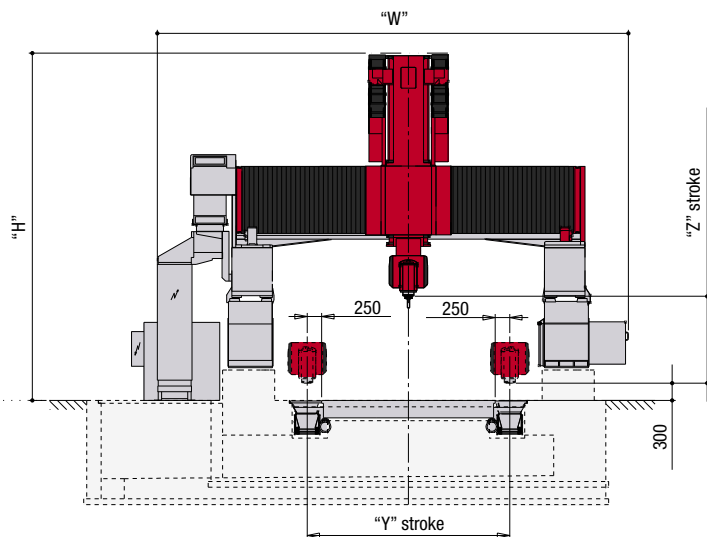


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		FLYMILL 1000 K 20/30/45/60/80			FLYMILL 1300 K 20/30/45/60/80			FLYMILL 1600 K 20/30/45/60/80			FLYMILL 2000 K 45/60/80				
Interpolated axes		3 - 5			5			5			5				
"X" Stroke	mm in	2.000 - 3.000 - 4.500 - 6.000 - 8.000 78.7 - 118 - 177 - 236.2 - 315			2.000 - 3.000 - 4.500 - 6.000 - 8.000 78.7 - 118 - 177 - 236.2 - 315			3.000 - 4.500 - 6.000 - 8.000 118 - 177 - 236.2 - 315			4.500 - 6.000 - 8.000 177 - 236.2 - 315				
"Y" Stroke	mm in	2.500 - 4.000 98.4 - 157.5			2.500 - 4.000 98.4 - 157.5			4.000 157.5			3.500 137.8				
"Z" Stroke	mm in	1.000 39.4			1.300 51.1			1.600 63			2.000 78.7				
"X" - "Y" Axes rapid feedrate	m/min ipm	60 2,360			60 2,360			60 2,360			60 2,360				
"Z" Axis rapid feedrate	m/min ipm	40 1,575			40 1,575			40 1,575			40 1,575				
"A" Axis rotation		-105° ÷ +120° / 0° ÷ +135°*			-105° ÷ +120° / 0° ÷ +135°*			-105° ÷ +120° / 0° ÷ +135°*			-105° ÷ +120°				
"C" Axis rotation		continuous			continuous			continuous			continuous				
"A" Axis rapid feedrate	rpm	50			50			50			50				
"C" Axis rapid feedrate	rpm	100			100			100			100				
Spindle power S6(40%) / S1	kW HP	40/40 53/53	or	41/37 55/50	or	85/75* 114/100*	40/40 53/53	or	41/37 55/50	or	85/75* 114/100*	40/40 53/53	or	41/37 55/50	
Spindle torque S6(40%) / S1	Nm ft-lb	137/100 101/73.7	or	89/64 66/47	or	480/300* 354/221*	137/100 101/73.7	or	89/64 66/47	or	480/300* 354/221*	137/100 101/73.7	or	89/64 66/47	
Spindle speed	rpm	18.000 or 28.000 or 14.000*			18.000 or 28.000 or 14.000*			18.000 or 28.000 or 14.000*			18.000 or 28.000				
DIN 69893-1 milling tool taper		HSK-A63		HSK-A100*		HSK-A63		HSK-A100*		HSK-A63		HSK-A100*		HSK-A63	

* Only HD version



Purely indicative picture



**A solution to meet all your needs:
from carbon fiber to titanium**

High-performance and precision machining centre for milling complex three-dimensional workpieces which require accurate machining and 5 continuous axis interpolation. FLYMILL is the ideal solution for any application in the aerospace, automotive, gear and mould sectors since it can machine a variety of materials, from composite to aluminium, steel and titanium.

Wide choice of configurations for customized performances

Various solutions for the best machine configuration to satisfy any need:

- standard version with one work area
- two work areas for pendulum machining

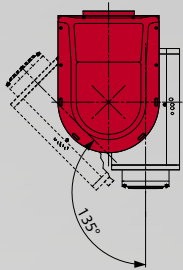
- model with pallet change system or with integrated milling table.

Easy access and clear view

Excellent accessibility and a clear view of the work area thanks to the machine gantry structure with moving bridge and wide frontal/back doors.

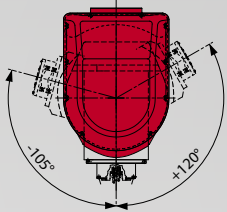
High precision, dynamics and flexibility with 5 continuous axis, high-speed machining

In order to always ensure high performances, FLYMILL is provided with heavy-structured shoulders manufactured using the ground-breaking Metalquartz® technology that ensures a very high structural rigidity and vibration damping, which guarantees a better surface finish and a longer service life of the cutting tools.



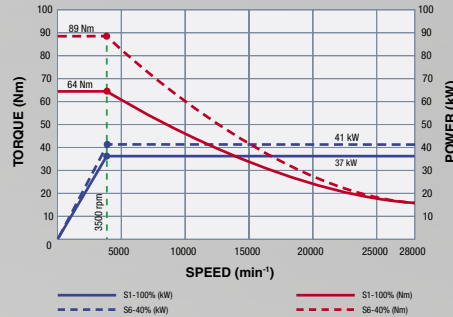
TORNADO HD

kW (S6/S1)	85-75
Nm (S6/S1)	480-300
rpm	14.000
"A" axis	-105 ÷ +120° / 0° ÷ +135°
"C" axis	continuous
"A" axis (rpm)	50
"C" axis (rpm)	100



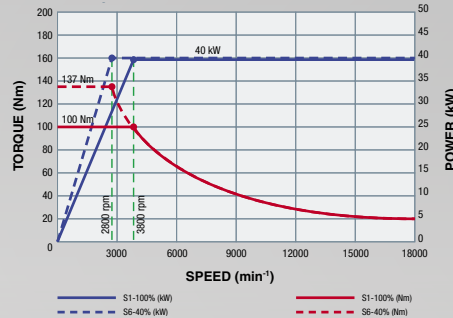
TORNADO

kW (S6/S1)	40-40	41-37
Nm (S6/S1)	137-100	89-64
rpm	18.000	28.000
"A" axis	-105 ÷ +120°	-105 ÷ +120°
"C" axis	continuous	continuous
"A" axis (rpm)	50	50
"C" axis (rpm)	100	100



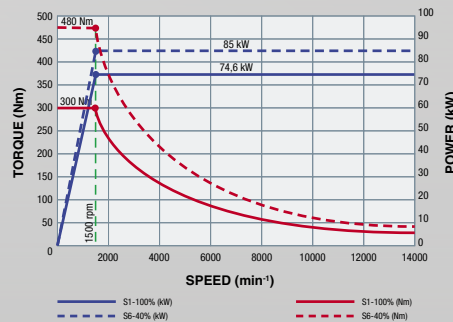
M 64/28

A 37 kW electrospindle with a 64 Nm class S1 continuous torque and a rotation speed of 28.000 rpm, the ideal solution for machining composite materials, light alloys and resin from rough milling to precision finishing operations.



M 100/18

Electrospindle featuring a power of 40 kW, continuous torque of 100 Nm in S1 duty and 18.000 rpm: smartly performing any machining operation on either steel or light alloys, from rough-machining up to precision finishing.



M 300/14

Electrospindle featuring a power of 75 kW, continuous torque of 300 Nm in S1 duty and 14.000 rpm: amazingly efficient when machining either steel or super alloys, from rough-machining up to precision finishing.

Three high-performance Direct Drive heads

Electrospindles always offer the best machining performance thanks to the cast-iron fork designed head which offers structural rigidity and efficient vibration damping. FLYMILL can be equipped with the Tornado HD head capable of housing a 75 kW (in S1 duty) spindle with 14.000 rpm in order to perform roughing and finishing operations.

High-Speed, Dynamics and Precision

The carriage and beam travel on well dimensioned, double recirculating roller guides ensuring machining precision and stability. All axes are moved by systems with double preloaded pinion and rack. Maximum precision is achieved thanks to the position detection through optical scales. Axes are controlled by digital drives with latest generation brushless servomotors.

Wide choice of electrospindles

FLYMILL machining centre can be supplied with a wide range of electrospindles depending on the type of machining required.

Machining precision is always guaranteed by the spindle thermal stabilizing system and a software designed to compensate natural thermal expansions of the Electrospindle when machining conditions change.

Simple and reliable tool magazines

According to the various models, wheel-type or chain-type tool magazines with fast manipulator to reduce tool changing times are available. Installed outside the work area and therefore free of dirt, these tool magazines ensure the greatest reliability over the time.

They can be equipped with an automatic coding system containing tool data and chip reading.



Top-roof bellows and dust extraction

Ideal for machining composite materials and aluminium, FLYMILL can be fitted with an efficient dust extraction system which is installed on the spindle nose and top-roof bellows that enclose the machine thus isolating the work area from the immediate surroundings. Different models of dust extraction and fume intake systems are available to satisfy any specific customers' needs.

The ideal tool cooling system

Depending on the need of machining, the coolant system can use external or through the spindle coolant with fixed or variable internal pressure (up to 70 bar), or incorporate a spray mist system, or simply use compressed air.

Monitoring and in-process inspections

FLYMILL can be supplied with a laser/touch tool presetter and a radio controlled probe to acquire the size and coordinates of the workpiece and position it more easily.



BRETON SPA
VIA GARIBALDI, 27
31030 CASTELLO DI GODEGO TV - ITALY
TEL +39 0423 7691 - FAX +39 0423 769600
info@breton.it - www.breton.it

breton



UNI EN ISO 9001:2000
CERT. No. 0056/4



UNI EN ISO 14001:2004
CERT. No. 299A/O



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