

# Barfeed bonanza

Barfeed manufacturers have been busy over the past 12 months aiming to get new products ready for the MACH exhibition later this month. Steed Webzell previews the developments

With around 22,000 visitors expected to pass through the doors at this month's MACH – the UK showcase exhibition for manufacturing technologies (see page 35) – the potential rewards for exhibitors who have done their product development homework, are vast.

Take UK barfeed manufacturer Hydrafeed, for example. Products making their debut at the show include its new Rota-Rack rotary part accumulator, the Hydrafeed V65 short bar feeder and the new Autofeed full length barfeed system.

Rota-Rack is a part accumulator for collecting components from CNC lathes. The patented system gathers parts automatically, allowing a turning centre to run unmanned for extended periods while eliminating part damage. The accumulator accommodates parts up to 254 mm long with diameters up to 76 mm. At MACH, Rota Rack will be seen tending to the load/unload requirements of a mock twin-spindle turning centre.

The new Hydrafeed V65 short barfeed is capable of holding round, hexagonal or shaped bars from 5 to 65 mm diameter – a range that covers the majority of everyday bar turning operations. The short barfeed accepts bar lengths of 1,200 mm as standard with the option of extending capacity to 1,500 mm. At full diameter capacity the short barfeed can accommodate 10 bars or, alternatively, hold a weight of 280 kg.

The V65 pre-loads the bar into the lathe spindle where a pusher rod drives the bar to a designated stop position to guarantee the exact location of the workpiece. Following clamping,



*The V65 holds round, hexagonal or shaped bars; 5 to 65 mm dia*

machining and part releasing, the Hydrafeed barfeed activates the pusher rod upon the chuck opening to feed the next length of bar.

Alongside the V65 will be the new Autofeed full length barfeed, which has a single guide channel to deliver a range of bar diameters with 3 to 32 mm or 5 to 51 mm bar diameter capacity models. With a standard length capacity of 3.2 m (3.7 m option), the new Autofeed range is suitable for fixed-head lathes or sliding-head turning centres.

## FULL LENGTH DEVELOPMENT

Iemca has also been working hard on the development of a new full length barfeed, the Elite 112. Available in the UK from Kitagawa Europe, the machine has

been designed to meet the growing needs of the high precision micro-mechanical market; it is able to feed 0.8 to 12.7 mm diameter stock, even on lathes with very high spindle speed and headstock acceleration.

Kitagawa says that the barfeed uses closed, calibrated, round section channels and high performance rotating tips to achieve fast and accurate operation. The Elite 112 provides 28 bar capacity and achieves bar changes in 26 seconds with 3.2 m long stock.

The company has also been

developing its range of short barfeeds, with three new models catching the eye. The first is the lemca Boss 21 compact feeder that handles bar diameters of 5 to 51 mm with a maximum length of 2,080 mm, making it suitable for use in restricted spaces or applications where lathe spindle length is limited. This capacity also eliminates the need to section long bars into several pieces and minimises the amount of unusable remnants. With a minimum magazine capacity of 400 mm, the barfeed can be used with fixed and sliding-headstock lathes, irrespective of spindle length.

According to Kitagawa, the new lemca Master 21 is the only 2 m bar feeder in its

### Pulling the plug on space restrictions

An age old shopfloor problem with CNC lathes is not having enough space for a barfeed. When this is the case, the operator has to manage the bar or load pre-cut bar blanks or billets.

A new solution is the Grippex II bar puller from PCM Tooling. The Grippex II works directly from a coolant supply and needs less than 2 bar of pressure. It can pull bars ranging from 3-105 mm with no adjustments required through the diameter range. It also clamps very close to the chuck and needs no spindle orientation, even on hexagonal bars. There are three sizes designed to be accommodated in the machine turret, with straight shank mounting and VDI options.

One of the first takers of Grippex II is Yorkshire-based Wardray Premise, a company specialising in the manufacture of all types of radiation shielding for medical and industrial applications. Wardray says it has gained what is equivalent to a barfeed but at a fraction of the cost.

"The introduction of Grippex II has meant we can redeploy the operator on other tasks, be it bench fitting or running the centre lathe, while still monitoring the CNC lathe," says Wardray's assistant production manager, Craig Washington. "We have also gained a saving by dropping the sawing operations when hand-loading small billets."



*lemca's full length, 0.8-12.7 mm diameter bar capacity unit is designed to meet the growing need for high precision, micro-mechanical parts*

class able to retract remnants. In addition, it features a novel bar clamping device for centring/insertion and remnant retraction, which requires no setting in service.

The third innovation is the lemca VIP 80 E-II's new hand-held operator panel. When specifying the bar diameter (5-80 mm), both magazine and guide channel on this short bar loader automatically align the centre of the bar to the machine's spindle. The screw-type feed system provides smooth and accurate positioning at 0-500 mm/sec, while a brushless motor allows feed, speed and stroke to be adjusted to the setting required for the phase in the cycle.

Another new barfeed on show at MACH will be the Hydrobar Sprint 565

from LNS Turbo. The company says that the Sprint 565's innovative design dampens bar vibration making it possible to increase spindle speeds to achieve improved surface finish and tool life.

Using the same rigid beam construction as the Sprint S2, with all steel machined parts attached to a heavy duty frame, the barfeed demonstrates improved stiffness-to-weight ratios.

#### HYDRODYNAMIC OR HYDROSTATIC

The barfeed accepts bar stock with diameters ranging from 5 to 65 mm and operates with fixed or sliding-headstock machines. Also, it can operate in either hydrodynamic or hydrostatic modes, an industry first. Hydrostatic operation permits users to cut bar stock as thick as 300 mm at optimum spindle speeds. The hydrodynamic principle allows for a wider range of bar stock diameters, fewer guiding elements, and 2 to 8 minute

changeovers, all of which reduce downtime, improve productivity and support unattended operation.

Some CNC lathe manufacturers opt to develop their own barfeeds that run directly from the machine control: among them is Haas Automation. The new Haas Servo Bar 300 automatic barfeed is available for all new Haas SL Series CNCs.

Innovative features make set-up and operation simple, like a large access door for easy spindle liner change, and a single adjustment for setting bar diameter. All barfeed parameters are set at the lathe control for the number of bars, the number of feet of bar or the number of parts to be turned. The Servo Bar 300 accepts random length bars and measures bar length automatically. It can unload a bar from the feed tray using a single G code and features automatic recovery from emergency-stop.

The new Haas barfeed features a full steel enclosure and accepts stock up to 79 mm diameter and 1,525 mm long (maximum bar diameter is determined by lathe model). A high capacity magazine can hold 30 bars measuring 25 mm in diameter, while a precision ballscrew drive system feeds to  $\pm 0.13$  mm length without a dead-stop. □