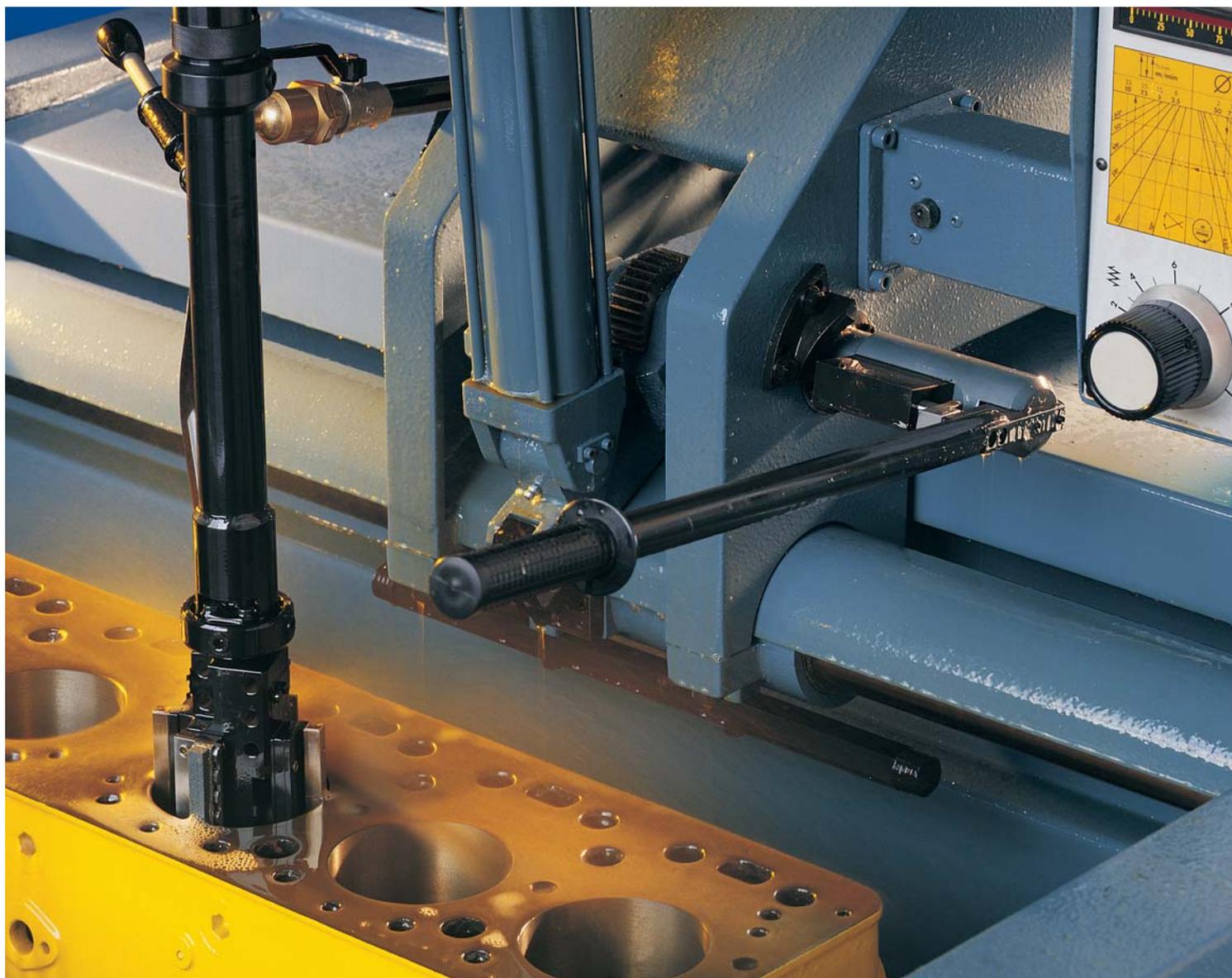


DY 350A DY 350A/TM/RV



Cylinder honing machine

A Company
of ThyssenKrupp
Technologies

BERCO S.p.A.



DY 350A

Cylinder honing machine

Fig. 1
Overall view of the DY 350 A: honing
of a 8 cylinder "V" block.



Fig. 5

Fig. 2



With DY 350 A Berco presents a honing machine designed for top results as far as simplicity in operating, rapidity and working accuracy are concerned. The machine is especially recommended for reconditioning internal combustion engine cylinder liners and thanks to its dimensional characteristics can be used for all types of vehicles, such as cars, light and heavy trucks, etc.

The hydraulic control of the reciprocating honing head movement allows to choose the most suitable working parameters (stroke length, stroke positioning with reference to the worktable, speed). This operation can be performed in a notable reduced time. The honing stones expansion during the working cycle can be effected either manually by means of a handwheel, or automatically with a pre-set value.

The automatic expansion feed at the upper stroke position, can be continuously adjusted even during the working cycle by means of a lever situated on the machine head, where the operator can easily actuate it.

An electronic device allows to pre-set a certain number of (double) strokes, without further stones expansion. At the end of the previously set feed process and of the strokes without feed, the machine stops automatically. At this stage the honer is located in the upper position of the stroke.

A lighting diode device, located on the control panel, allows to evaluate the possible geometrical errors of the cylinder during the working cycle. The operator can therefore intervene by operating a local stroke removal in the reduced diameter area at any point of the stroke, without any

Fig. 3



further adjustment, simply by means of a push button.

Setting-up of engine blocks, Through an outer lever the worktable can be inclined in both directions and this grants the possibility to easily utilize it for any type of in-line or "V" cylinder engine blocks. The use of any particular and expensive set-up device can be avoided.

The coolant system is equipped with a large tank place in the basement of the machine. On request the cooling, system can be equipped with a centrifugal clarifier - as alternative, with two cartridge filters - which improves the coolant purification. A new series of honers, specially designed for the DY 350 A and supplied as extra outfit, allows to reach the best performances of the machine and to achieve top accuracy and work rapidity.

Fig. 4



Other accessories, available as extra outfit, permit to spare time in the several setting-up and checking operations.

The machine is also available in the execution with device for vertical adjustment of the table (DY 350A/TM) and device for automatic reduction of the splinde rotation speed (DY 350A/TM/RV).

Fig. 2
View of the workhead and disc for stroke values pre-setting.

Fig. 3
Electric controls panel.

Fig. 4
Honing of a cylinder on an in-line block.

Standard outfit

Extra outfit

STANDARD OUTFIT

- 1 Reference bar, mm 900 long (35 1/2").
- 1 Reference bar, mm 1300 long (51 3/16").
- 1 Crank for locking the reference bars.
- Parallel support, overturning, mm 38 and 105 height (1 1/2" and 4 1/8") - 2 pcs.
- 1 Grease gun.
- Service spanners set.

EXTRA OUTFIT

Honing heads

A00A33800

TL 40 honing head, mm 40 - 60 range (1 37/64" - 2 3/8"), complete with shims for capacity check, guide shoes and stone carriers, with mounted SG quality stones.

A00A33820

TL 58 honing head, mm 58 - 86 range (2 9/32" - 2 3/8"), complete with shims for capacity check, guide shoes and stone carriers and SG quality stones with base.

A00A33860

TL 84 honing head, mm 84-127 range (3 5/16" - 5") (up to mm 155 - 6 7/64" - with kit of honing items supplied apart) complete

with shims for capacity check, guide shoes, stone carriers and SG quality stones with base (fig. 5).

A00A33680

Kit of items for honing range from mm 127 to 155 (5" - 6 7/64"), used on TL 84 honing head.

A00A33760

Bear for assembling and disassembling stones with base (used for TL 58 and TL 84) (fig. 7-a).

A00A33780

Setting caliper for honing heads, mm 58 to 155 range (2 9/32" - 6 7/64") (fig. 7-b). N.B. The abrasive stones are available in four types: SG quality (cast iron roughing), LG (cast iron finishing) and SA (steel roughing) and LA (steel finishing). For further details about honing heads, accessories and spare parts please check the relative manual.

Other items

V08A33002

Cooling system with two

Fig. 5



cartridge filters, assembled.

A00A33902

Toolholder shelf Assy.

A00.56934

Motorcycle cylinder clamping fixture (fig. 6).

A03.20456

Cylinder block quick clamping fixture (2 pcs. Required).

A99.51283

AM 80 - Bore check gauge, mm 35 - 80 range (1 3/8" - 3 1/8").

A99.51322

AM 151 - Bore check gauge, mm 50 - 150 range (2" - 5 7/8")

A99.51362

AM 250 - Bore check gauge, mm 100 - 250 range (3 15/16" - 9 7/8").

A00A33914

Support for bore check gauge.

Fig. 5

TL 84 honing head, box. In the picture are shown same components supplied apart (for exact composition see manual)

Fig. 6

Clamping device for fining cylinders.

Fig. 7

a) Bear for assembling and disassembling stones with base; b) Setting caliper for honing heads.

Fig. 6

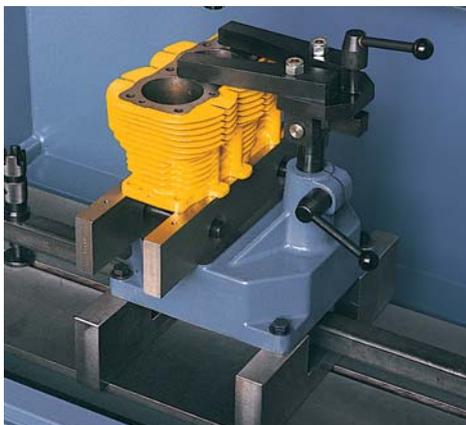
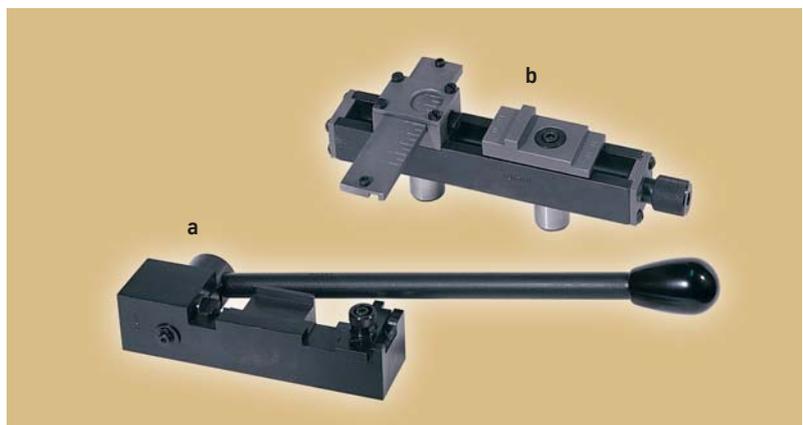
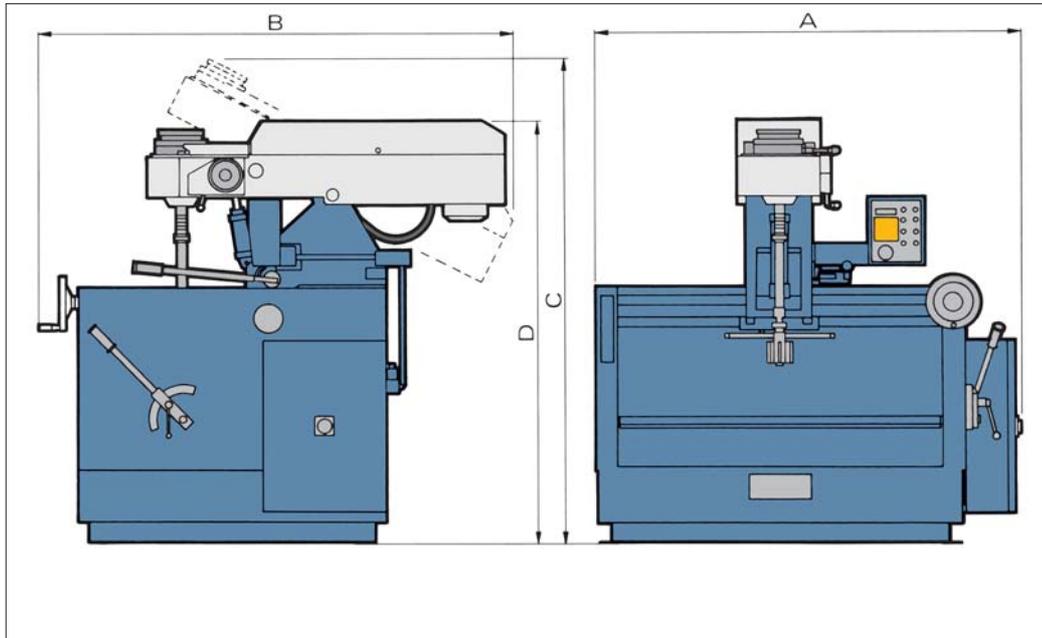


Fig. 7



Technical data



units **DY 350A - DY 350A/TM - DY 350A/TM/RV**

Working capacity

Max. honing diameter	mm (inch)	155 (6 ⁷ / ₆₄ "
Min. honing diameter	mm (inch)	40 (1 ³⁷ / ₆₄ "
Max. honing depth	mm (inch)	350 (13 ³ / ₄ "
Max. reciprocating stroke of the boner	mm (inch)	280 (11")
Max. length admitted for the block	mm (inch)	1200 (47")

Speed and feed

Spindle rotation speed (4)	giri/min.	60 - 90 - 130 - 200
Spindle reciprocating speed (steplessly variable)	m/min (inch)	0 ÷ 20 (0" ÷ 787")
Max. table inclination	gradi	± 45
Max. head traverse	mm (inch)	1030 (40 ⁹ / ₁₆ "
Table vertical movement (only version "TM")	mm (inch)	80 (3 ¹ / ₂ "

Motor rating

Spindle rotation motor	kW/CV	1,1 - 1,5
Hydraulic system motor	kW/CV	1,1 - 1,5
Electric pump for cooling system with cartridge filters	kW/CV	0,15 - 0,2
Electric pump for cooling system with filters (extra outfit)	kW/CV	0,53 - 0,70

Tanks capacity

Coolant tank	litri - US gal.	200 - 52
Hydraulic system tank	litri - US gal.	48 - 13

Dimension (Fig. 12)

Length (A)	mm (inch)	1740 (68 ¹ / ₂ "
Width (B)	mm (inch)	1920 (75 ⁵ / ₈ "
Height (C)	mm (inch)	2000 (78 ³ / ₄ "
Height, with horizontal head (D)	mm (inch)	1740 (68 ¹ / ₂ "

Weights

Approx. weight with std. outfit, unpacked	kg (lbs)	880 (1937)
Approx. weight with std. outfit, ocean packed	kg (lbs)	1210 (2664)

Measurements, weights and executions are not binding on manufacturers and can be changed without previous notice. Motor rating is referred to 50 Hz frequency.



ISO 9001 Cert. n. 0029/4



ISO 14001 Cert. n. 0009A/0



All manufacturers's names, numbers, symbols and descriptions are used for reference purposes only. All parts listed are of Berco original production. The specifications and processes described in this brochure are subject to change without notice

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BERCO S.p.A.
Via 1° Maggio, 237
44034 Copparo (FE) Italy
Tel. +39 0532 864 111
Fax +39 0532 864 259
www.berco.com
machinetools@berco.com