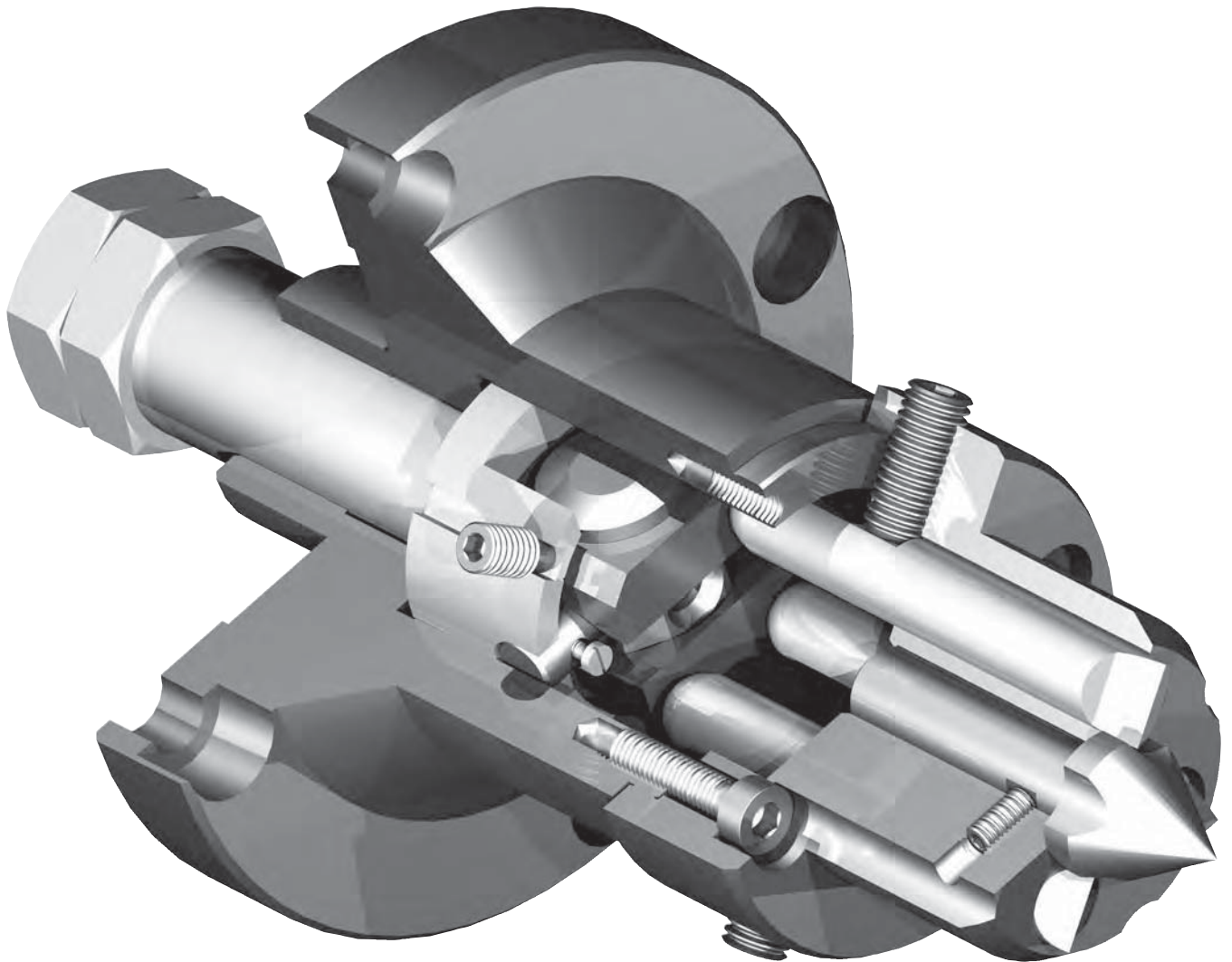




已获专利的端面驱动顶尖
PATENTED FACE DRIVERS



含 4 个独立传动销的端面驱动顶尖 全球独一无二的系统 !
FACE DRIVER WITH 4 INDEPENDENTS DRIVING PINS.... A UNIQUE SYSTEM ALL OVER THE WORLD!

TECHNICAL FEATURES OF F.R.B. FACE DRIVERS FOR CENTERED SHAFTS

F.R.B. 端面驱动顶尖工作时采用可实现四销传动的楔杆操纵已获专利的补偿系统。该系统可调节性极高并在最困难情况下确保安全而可靠的转矩传输；例如粗面或端面斜度相对于旋转轴有 3mm 距离。

顶尖不与传动销相连并靠在嵌入莫氏圆锥的蝶形弹簧垫圈总成上。即使顶尖尺寸发生变化，也能在工作中保持最佳重复定位。

可轻松拆下顶尖端。无需从机床上拆下端面驱动顶尖。含插槽的可互换顶尖甚至可以车削尾端件带孔的工件。F.R.B.端面驱动顶尖极佳的传动效率意味着，可以充分利用最先进机床的所有最先进行能。

重点：如需获得切割参数，请一定要联系我们的技术部门（电话：051/846760）

电邮info@tecnologiefrb.com

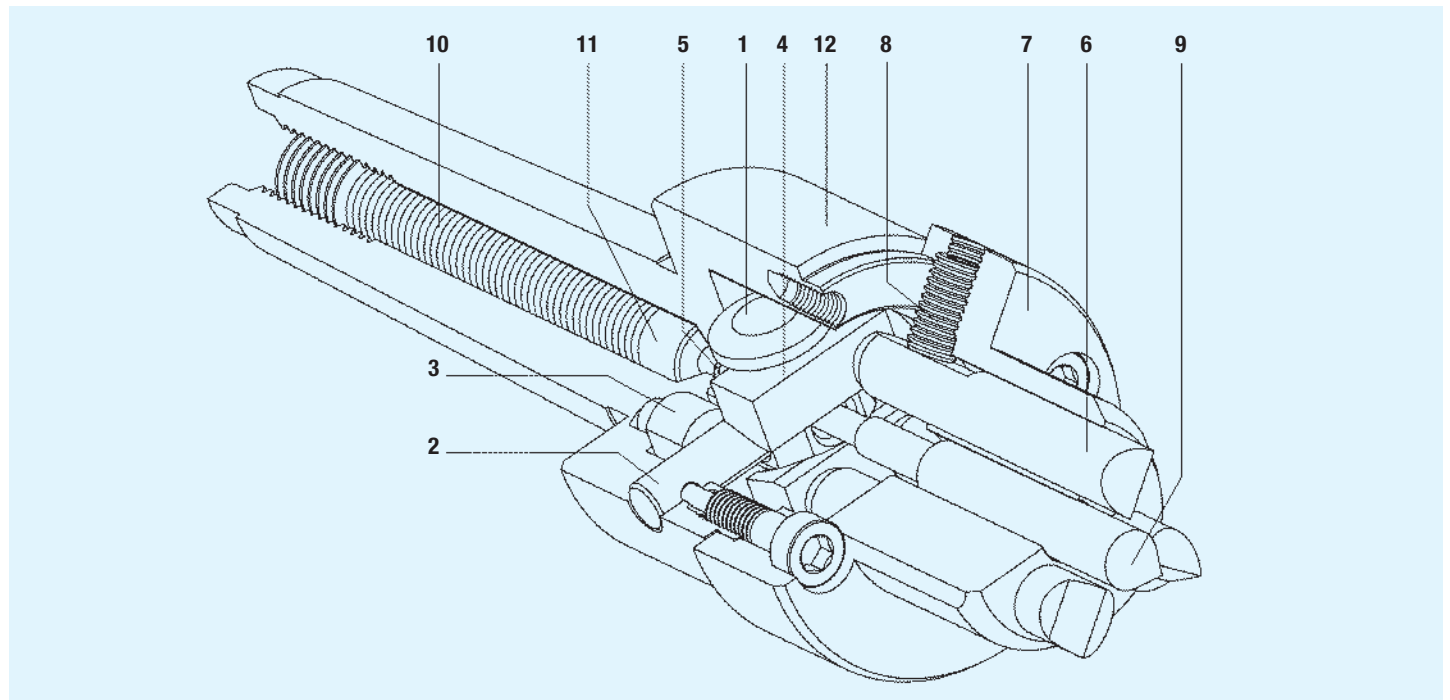
F.R.B. face drivers work by a patented compensating system, operated by wedge lever, which allows four-pin driving. This system is highly adjustable and ensures safe and reliable torque transmission under the most difficult conditions; such as rough surfaces or obliqueness of end faces by as much as 3 mm in relation to the rotation axis.

The center is independent of the driving pins and rests against a belleville spring washer assembly lodged inside the Morse taper. Even with varying center sizes, work positioning is maintained with optimal repeatability.

The center point can be easily removed. There is no need to remove the face driver from the machine tool. The interchangeability of centers with slots enables turning even of workpieces with holes in the end piece.

The superior driving efficiency of the F.R.B. face drivers means that the full state-of-the-art performance of even the most advanced machine tools can be fully exploited.

Important: for cutting parameters, always contact our technical department (phone: 051/846760). E-mail: info@tecnologiefrb.com



所有 F.R.B. 端面驱动顶尖均采用系统补偿楔杆。该驱动顶尖包括以下部件：

- 1) 楔杆总成
- 2) 楔杆支撑销
- 3) 支撑销座
- 4) 平衡板
- 5) 锚定件
- 6) 传动销
- 7) 传动销支撑垫圈
- 8) 传动销固定螺钉
- 9) 顶尖端
- 10) 蝶形弹簧垫圈总成
- 11) 顶尖端支撑油缸
- 12) 端面驱动顶尖本体

All F.R.B. face drivers use a wedge lever compensating system. The driver consists of these components:

- 1) Wedge lever assembly
- 2) Wedge lever support pin
- 3) Support pin base
- 4) Balancing plates
- 5) Anchor
- 6) Driving pins
- 7) Driving pins support washer
- 8) Driving pins retaining screw
- 9) Center point
- 10) Belleville spring washer assembly
- 11) Center point support cylinder
- 12) Face driver body

HOW THE “WEDGE LEVER” SYSTEM WORKS

楔杆 ① 通过两个支撑销 ② 固定，而这两个支撑销又通过两个辅助销座 ③ 支撑，它们可减少销偏转。楔杆总成有两个平衡板 ④，通过两个名为“锚定件” ⑤ 的弹性组件固定，这些组件固定在平衡板底部。四个传动销 ⑥ 通过传动销支撑垫圈 ⑦ 导向，旋转间隙由传动销固定螺钉 ⑧ 消除：传动销铰接端置于楔杆的平衡板上。

楔杆专门设计用于补偿传动销所在端面的任何倾斜。这些传动销由特种钒钢和高强度高硬度钼制成。

传动销有两种类型：每个主轴旋向各对应一种类型。

顶尖 ⑨ 不与传动销相连并通过蝶形弹簧承载。弹簧推力通过圆锥体内端面驱动顶尖后部的平头螺钉进行调节。

要加工含孔或大型顶尖的工件，可装配带插槽的端部。有关操作说明，请参见第 37 页。

低位传动销可装在所有机型中，以便从端面驱动顶尖侧直径进行加工，这些直径太细，因而无法被标准尺寸的传动销回转。

The wedge lever ① is held in position by two support pins ② that are themselves supported by two auxiliary supports ③. These reduce pin deflection. The wedge lever assembly has two balancing plates ④ that are held in position by two elastic elements called “anchors” ⑤. These are fixed to the bottom of the balancing plates.

The four driving pins ⑥ are guided by the driving pin support washer ⑦. Rotation play is eliminated by the driving pins retaining screw ⑧: the driving pins rest their rounded end on the wedge lever’s balancing plates.

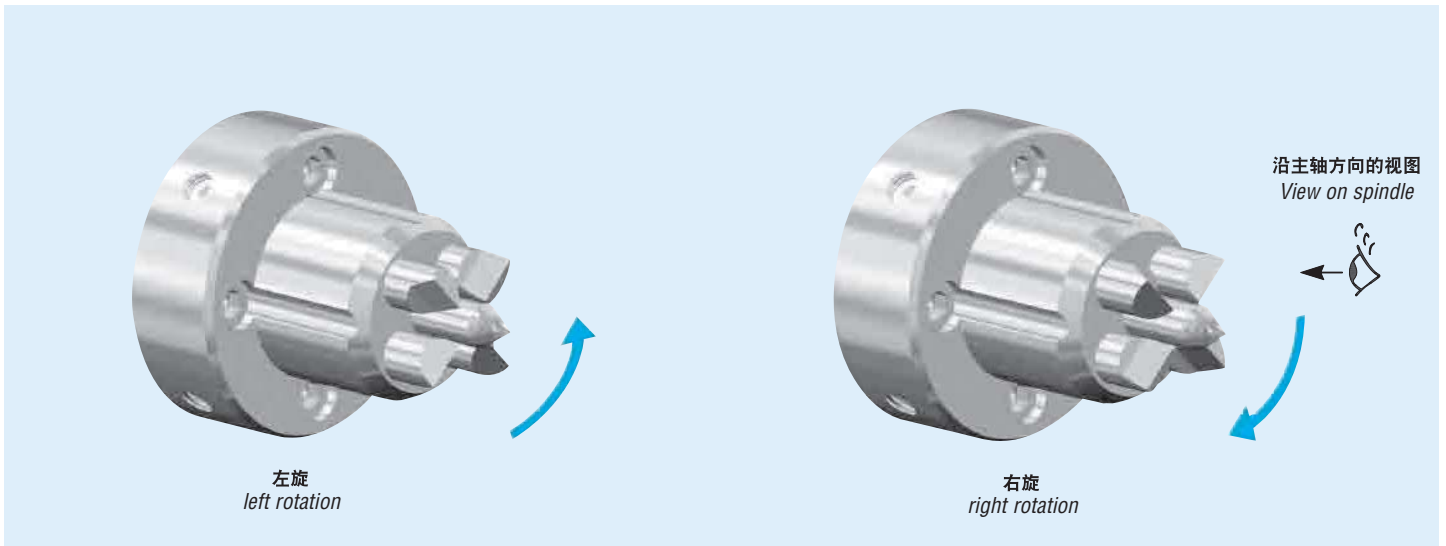
The wedge lever has been specially designed to compensate any obliqueness of end faces on which the driving pins rest. They are made from specially vanadium steel and highly tensile, hardened molybdenum.

The driving pins are of two types: one for each rotation direction of the spindle.

The center ⑨ is independent of the driving pins and is loaded by the Belleville springs. Spring thrust is adjustable by the grub screw at the back of the face driver, inside the cone.

To machine workpieces with holes or large centres, point with slots can be fitted. For operating instructions, see pag. 37.

Lowered driving pins can be fitted to all models in order to machine from the face driver side diameters that are too thin to be turned by standard size driving pins.



F.R.B. 端面驱动顶尖

配置该 F.R.B. 端面驱动顶尖后，操作员可在不拆卸其他端面驱动顶尖部件的情况下更换传动销和顶尖端。而且还可以实现大型工具的长时间加工。

F.R.B. FACE DRIVER

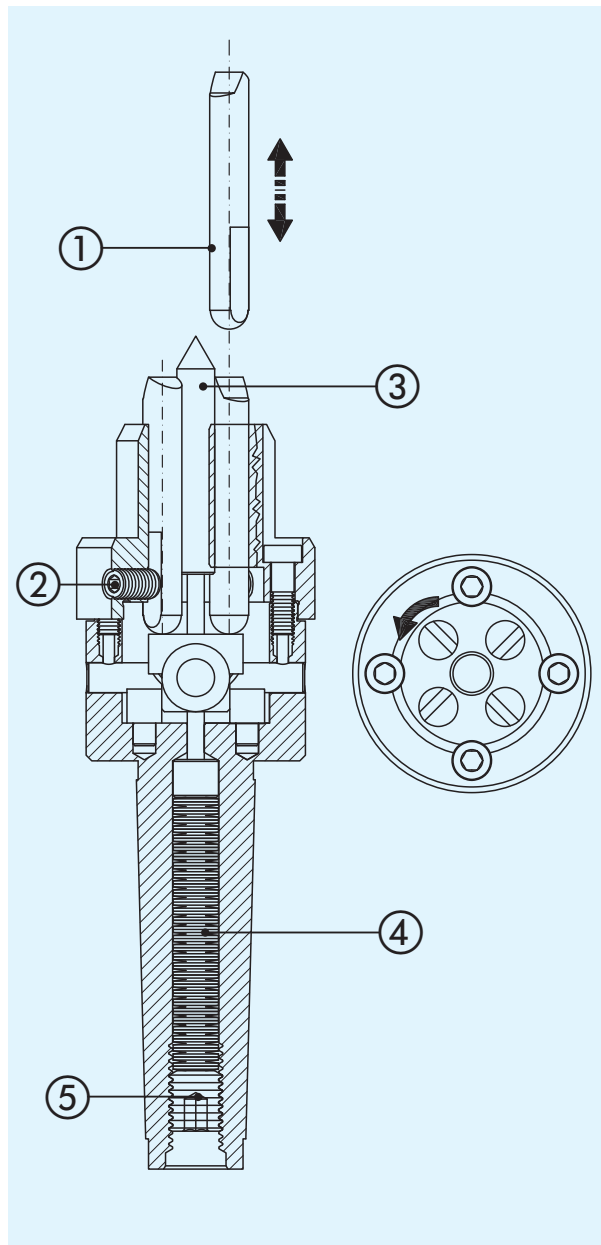
Enables the operator to change the driving pins and the center point without having to remove other face driver components. It also enables long execution machining by even large tools.

- A) 用手插入传动销 ① 并使其沿端面驱动顶尖轴的方向滑动，同时使铣削面朝外。
- B) 含垫圈的径向螺钉 ② 堵塞住传动销；只需绕销轴旋转 1/15 毫米便可对准工件表面调节（通过滑动）传动销，即使在表面存在瑕疵或毛刺情况下也是这样。四个径向螺钉已在装配时固定，不得再触动。
- C) 我们建议每隔约 400 运行小时取出顶尖端 ③ 和传动销，涂上油脂，在其表面形成一薄层油膜，以防乳状液进入端面驱动顶尖本体。
- D) 以相反方式装配蝶形弹簧垫圈 ④ 并用螺钉 ⑤ 压紧，不得再触动。

- A) Insert driving pins by hand ① and make them slide in direction of the face driver's axis, keeping the milled plane turned outwards.
- B) The radial screws of the washer ② block the driving pins; just a rotation of 2/3 tenth of millimeter around its own axis is permitted to make possible an adjustment (by sliding) of the driving pins against the surface of the workpiece also in case of defects or burr. Four radial screws have been registered during assembling and don't have to be touched anymore.
- C) Every about 400 working hours we suggest to extract the central point ③ and the driving pins to regrease them in order to create a thin film that avoids introductions of emulsifiable water into the body of the face driver.
- D) The belleville spring washers ④ are fitted the opposite way and compressed by the screw ⑤ that don't have to be touched.

P.S.: 上述所有操作（D项除外）均可在不影响精度的情况下通过装在机器上的端面驱动顶尖完成。

P.S.: All above mentioned operations, except for point D, can be made with the face driver assembled on the machine without compromising its accuracy.

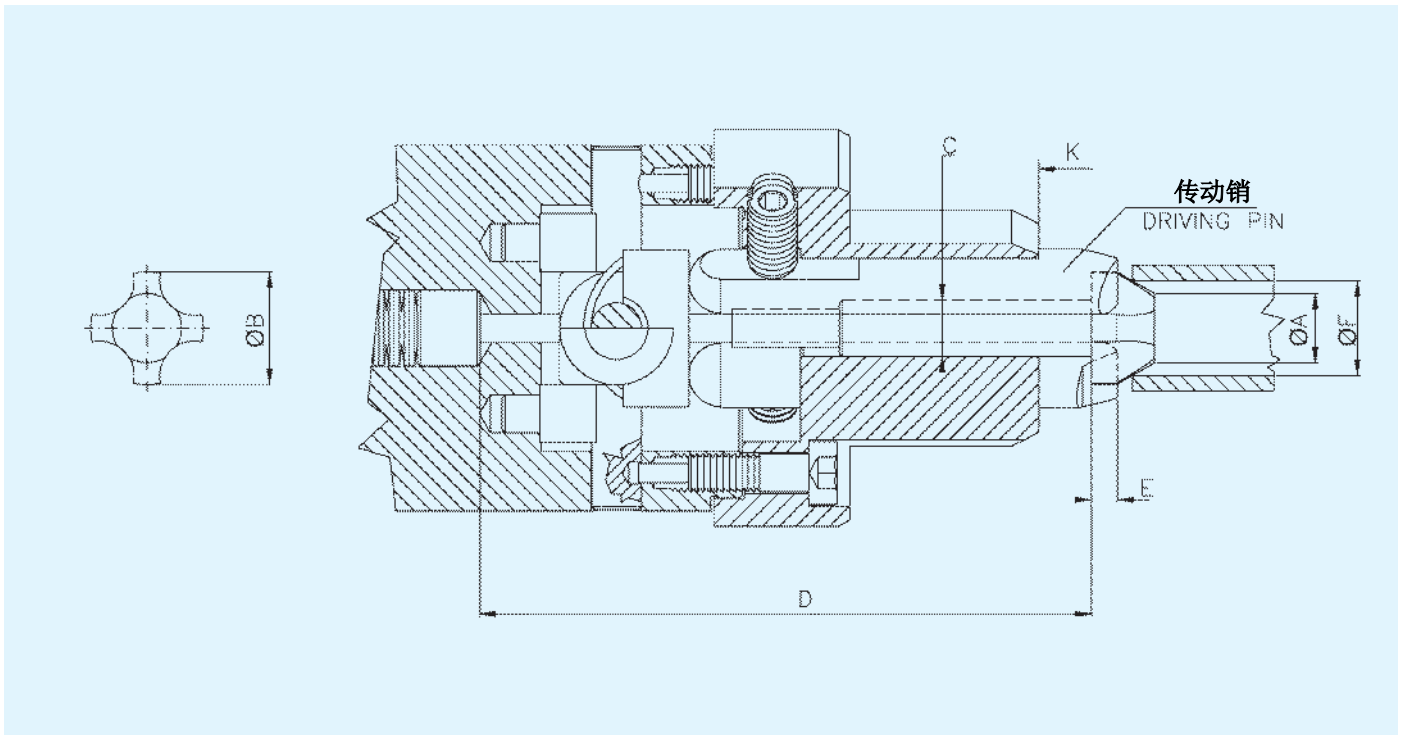


使用方法：

使用含插槽的顶尖端时，要常检查传动销长度。该长度绝不能比目录中显示的长度低 3mm。这表明在锐磨时，传动销长度最多只能比其原有长度短 3mm。为确保含插槽的顶尖端有效工作，一定要小心确保它不得接触顶尖端支撑垫圈的位置 (K)。在选择含插槽的顶尖端尺寸时，一定要考虑到尺寸“F”（参见参考页上的表格）。

USING:

When using the center points with slots, always check driving pin length. This must never be less than 3 mm of the length indicated in the catalogue. This means that when sharpening, they can be shortened only by 3 mm (E) of their original length. To ensure that the point with slots operates efficiently, care must be taken to ensure that it never comes into contact with level (K) of the point support washer. The dimension of the center point with slots has to be chosen considering the dimension "F" (see tables on reference pages)



软卡爪:

* 首先卡入自定中心夹头的轴向和径向间隙。

1^a OP.: 用三个卡爪夹紧具有合适直径的圆法兰后, 加工直径 D。

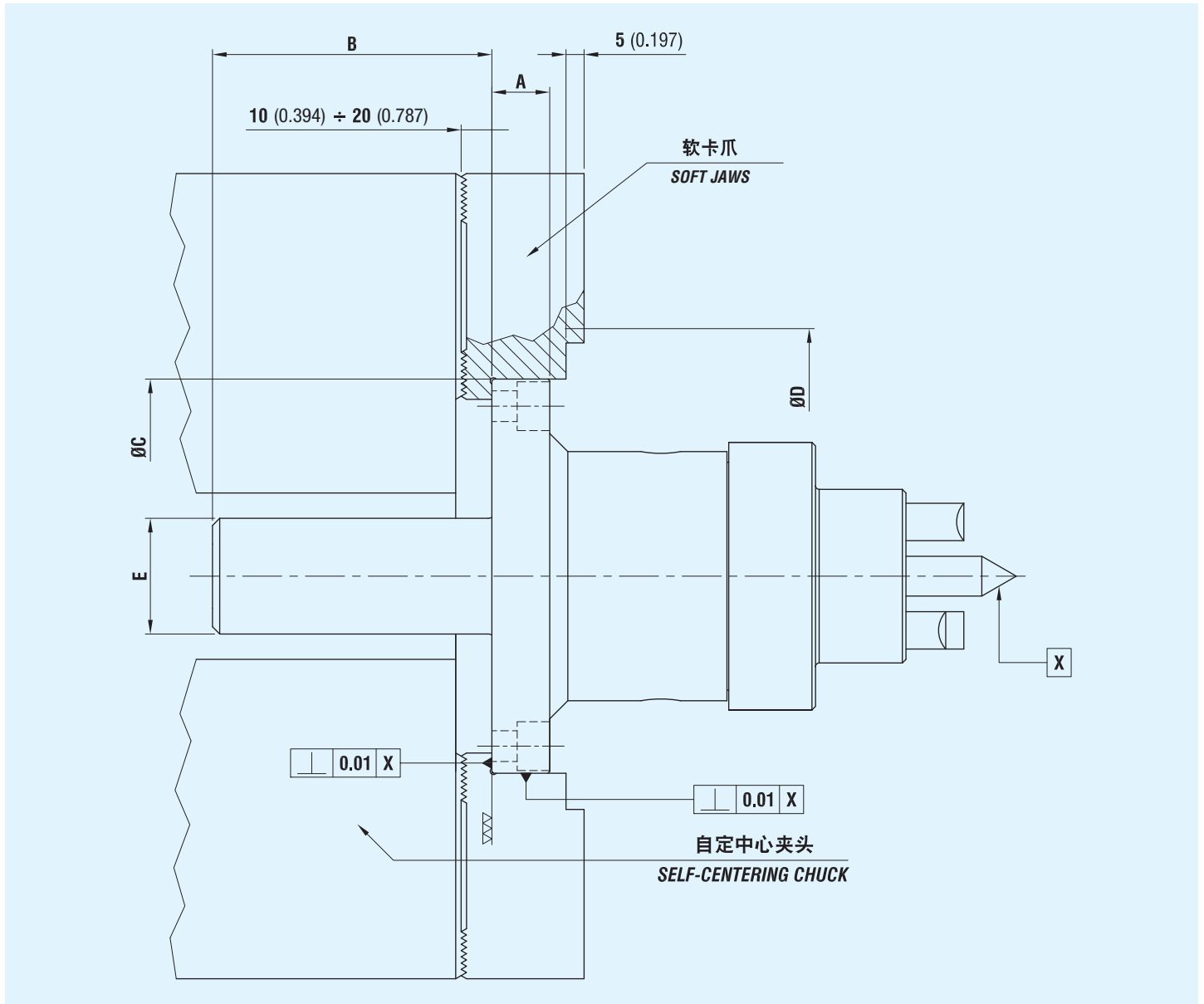
2^a OP.: 夹紧具有直径 D 的合适环后, 加工直径 C。

SOFT JAWS:

* Preliminary operation to take up the axial and radial slack of the self-centering chuck.

1^a OP.: machine the diameter *D* after clamping a round flange of suitable diameter in the three jaws.

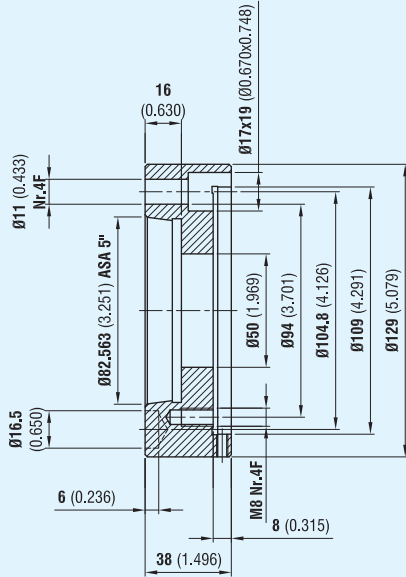
2^a OP.: Machine the diameter *C* after clamping the appropriate ring in the diameter *D*.



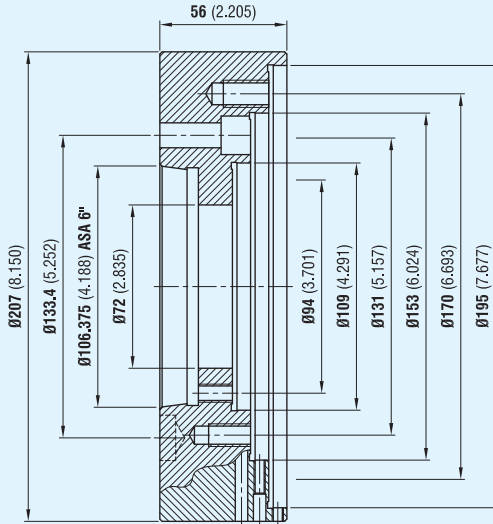
端面驱动顶尖 Face Driver	A	B	Ø C	Ø D	Ø E
6/30. 5/20. 12/50. 15/55. 20/60	16 (0.630)	56 (2.205)	109 (4.291)	160 (6.299)	32 (1.260)
20/70	16 (0.630)	62 (2.441)	109 (4.291)	160 (6.299)	32 (1.260)
45/120	22 (0.866)	108 (4.252)	153 (6.024)	200 (7.874)	32 (1.260)

磨削和淬火

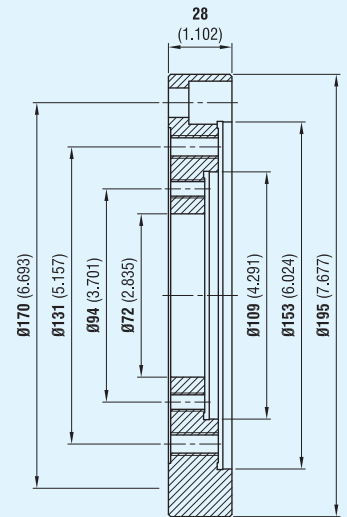
GROUND AND HARDENED



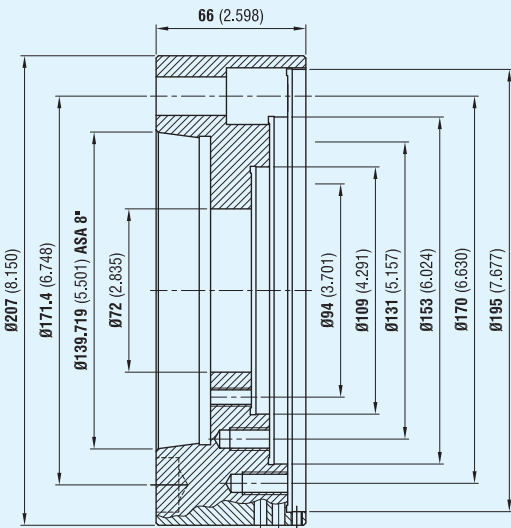
ASA 5" 法兰
ASA 5" flange
代码 - CODE 070700558



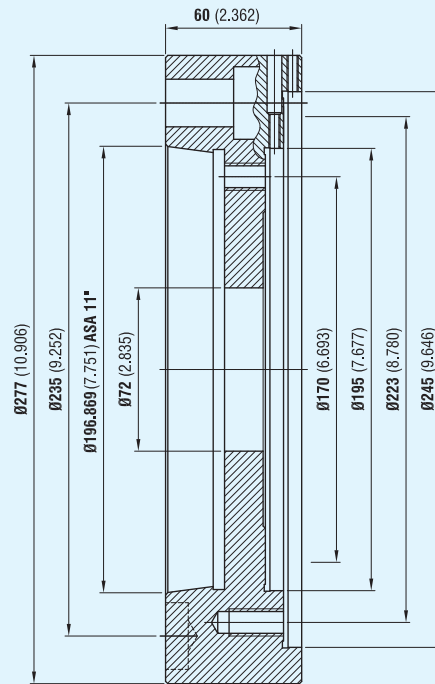
ASA 6" 法兰
ASA 6" flange
代码 - CODE 070700551



中性平衡法兰
Neutral flange
代码 - CODE 070700550



ASA 8" 法兰
ASA 8" flange
代码 - CODE 070700552



ASA 11" 法兰
ASA 11" flange
代码 - CODE 070700559

有关进一步详情，请联系我方技术室

FOR FURTHER AND MORE DETAILED INFORMATION.
CONTACT OUR TECHNICAL OFFICE

FACE DRIVER 6/30

特性:

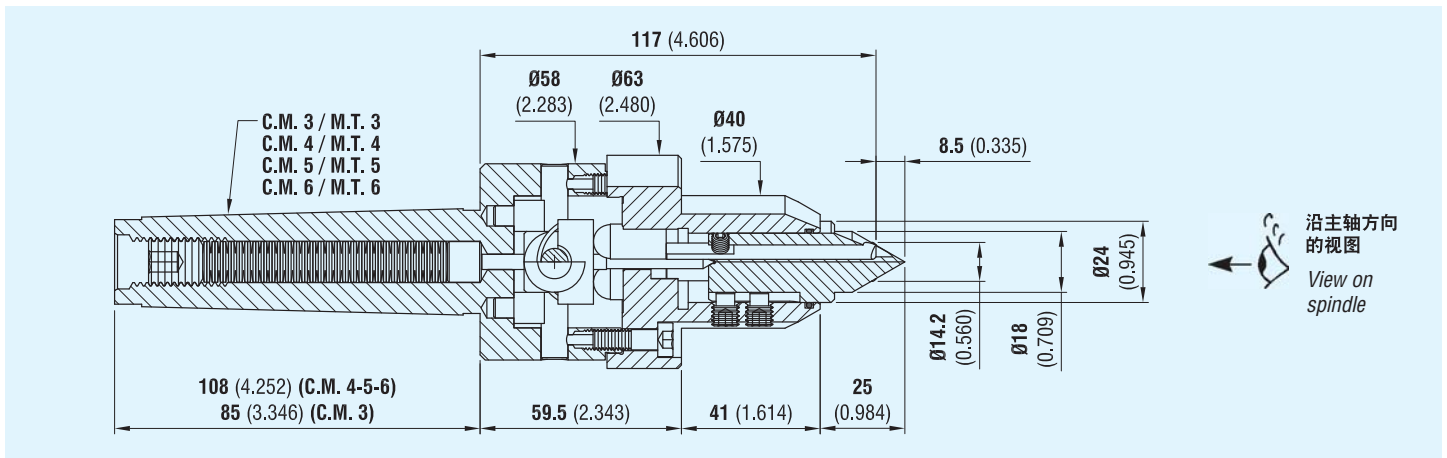
该端面驱动顶尖适合加工直径在 6mm (0.236 英寸) 和 30mm (1.181 英寸) 之间的轴。也可从端面驱动顶尖侧进行大型工具加工；可在不拆卸其他端面驱动顶尖部件情况下更换顶尖端和传动销。为便于正确使用，轴心须配有规格为 $\varnothing 1.5 (0.059) - \varnothing 5 (0.197)$ (最大)。

FEATURES:

This face driver is suitable for machining shafts of between 6 (inch 0.236) and 30 (inch 1.181) millimetres in diameter. Machining with large tools can also be carried out from the face driver side; the center point and the driving pins can be replaced without having to remove other face driver components. For a correct use, shafts must have centres from $\varnothing 1.5 (0.059)$ to $\varnothing 5 (0.197)$ max.

含莫氏锥度配件的端面驱动顶尖 6/30

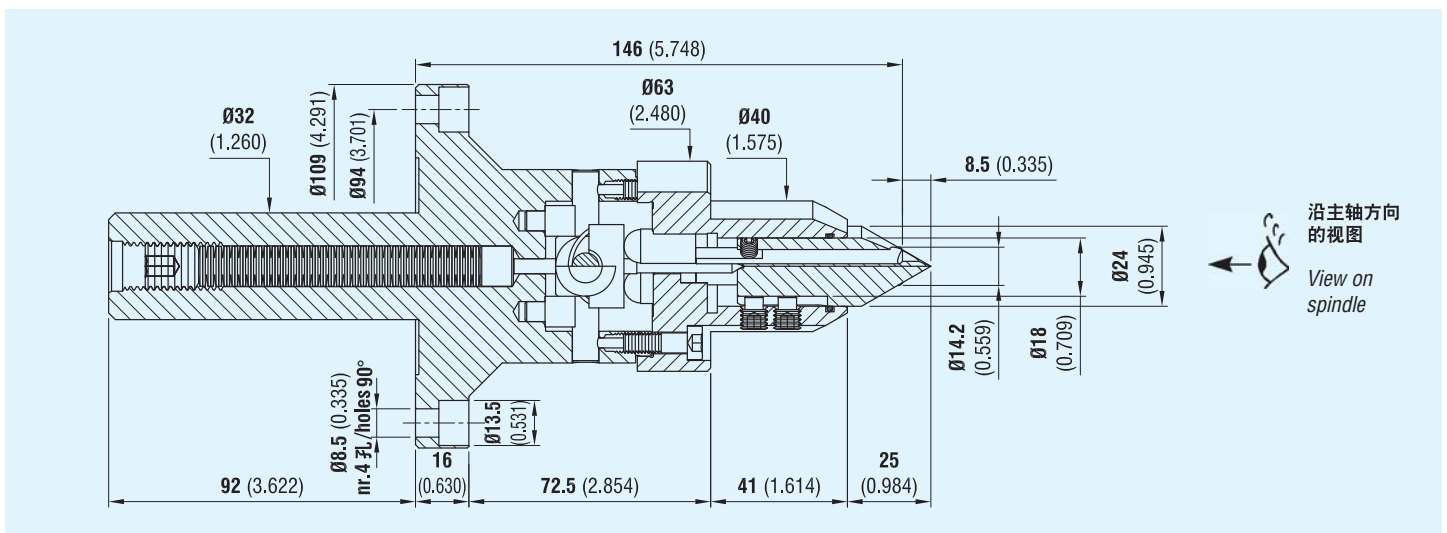
FACE DRIVER 6/30 WITH MORSE TAPER FITTING



右旋代码 Code right rotation	左旋代码 Code left rotation	锥度 Taper
070752380	070752381	CM3/MT3
070752382	070752383	CM4/MT4
070752384	070752385	CM5/MT5
070752386	070752387	CM6/MT6

含整体法兰的端面驱动顶尖 6/30

FACE DRIVER 6/30 WITH INTEGRAL FLANGE

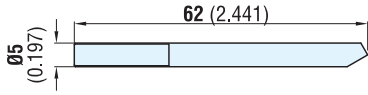


右旋代码 Code right rotation	左旋代码 Code left rotation
070760048	070760049

SPARE PARTS FOR FACE DRIVER 6/30

备件

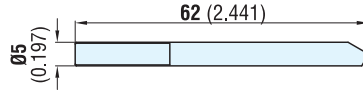
6/30 传动销



左旋 /left rotation

SPARE PARTS

Driving pins for 6/30



右旋 /right rotation

左旋代码 Code left rotation	右旋代码 Code right rotation
080845004	080845001

6/30 的低位传动销

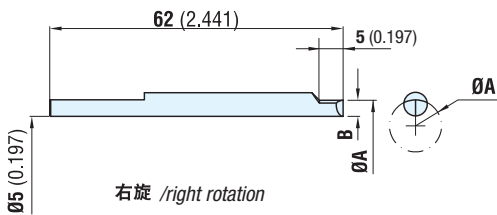
Lowered driving pins for 6/30

注：关于这些尺寸，请联系我们的技术部门

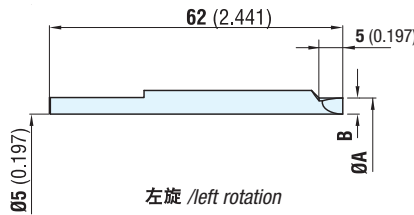
WARNING: contact our technical department for these dimensions

左旋代码 Code left rotation	$\varnothing A$	B
090901007	7 (0.276)	1.4 (0.055)
090901008	8 (0.315)	1.9 (0.075)
090901009	9 (0.354)	2.4 (0.094)
090901010	10 (0.394)	2.9 (0.114)
090901011	11 (0.433)	3.4 (0.134)
090901012	12 (0.472)	3.9 (0.154)

右旋代码 Code right rotation	$\varnothing A$	B
090900007	7 (0.276)	1.4 (0.055)
090900008	8 (0.315)	1.9 (0.075)
090900009	9 (0.354)	2.4 (0.094)
090900010	10 (0.394)	2.9 (0.114)
090900011	11 (0.433)	3.4 (0.134)
090900012	12 (0.472)	3.9 (0.154)



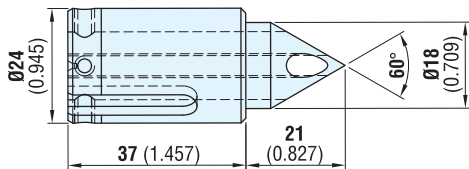
右旋 /right rotation



左旋 /left rotation

6/30 的顶尖端支撑传动销

Center point supporting driving pins for 6/30



代码 Code
072102762

注释 NOTES

特性:

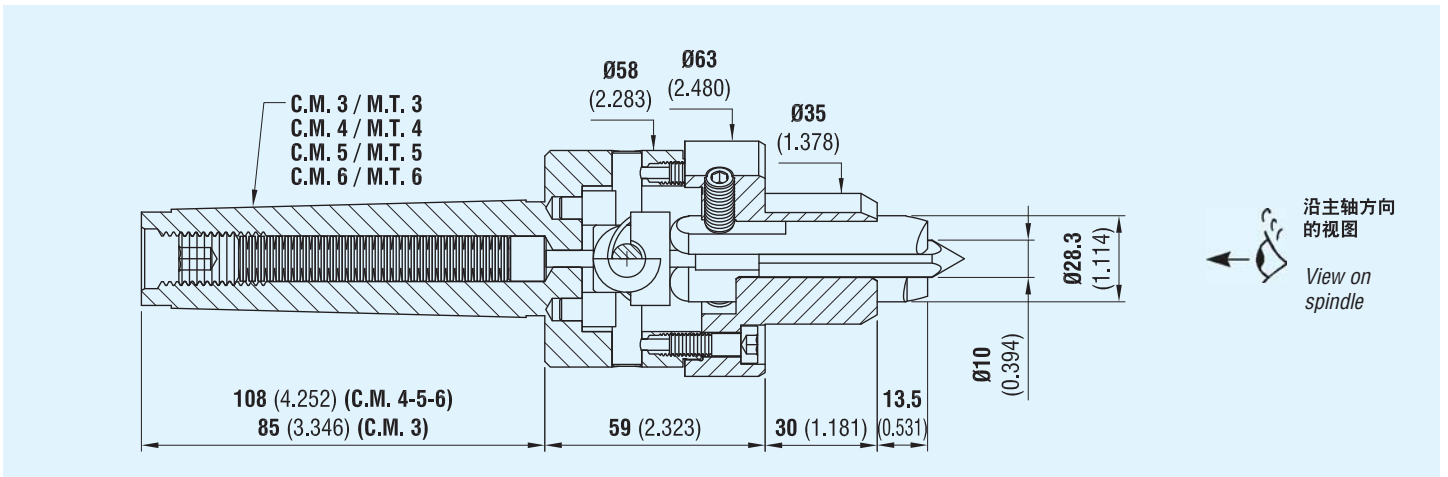
该端面驱动顶尖适合加工直径在 12mm (0.472 英寸) 和 50mm (1.969 英寸) 之间的轴。也可从端面驱动顶尖侧进行大型工具加工；可在不拆卸其他端面驱动顶尖部件情况下更换顶尖端和传动销。

FEATURES:

This face driver is suitable for machining shafts of between 12 (inch 0.472) and 50 (inch 1.969) millimetres in diameter. Machining with large tools can also be carried out from the face driver side; the center point and the driving pins can be replaced without having to remove other face driver components.

含莫氏锥度配件的端面驱动顶尖 12/50

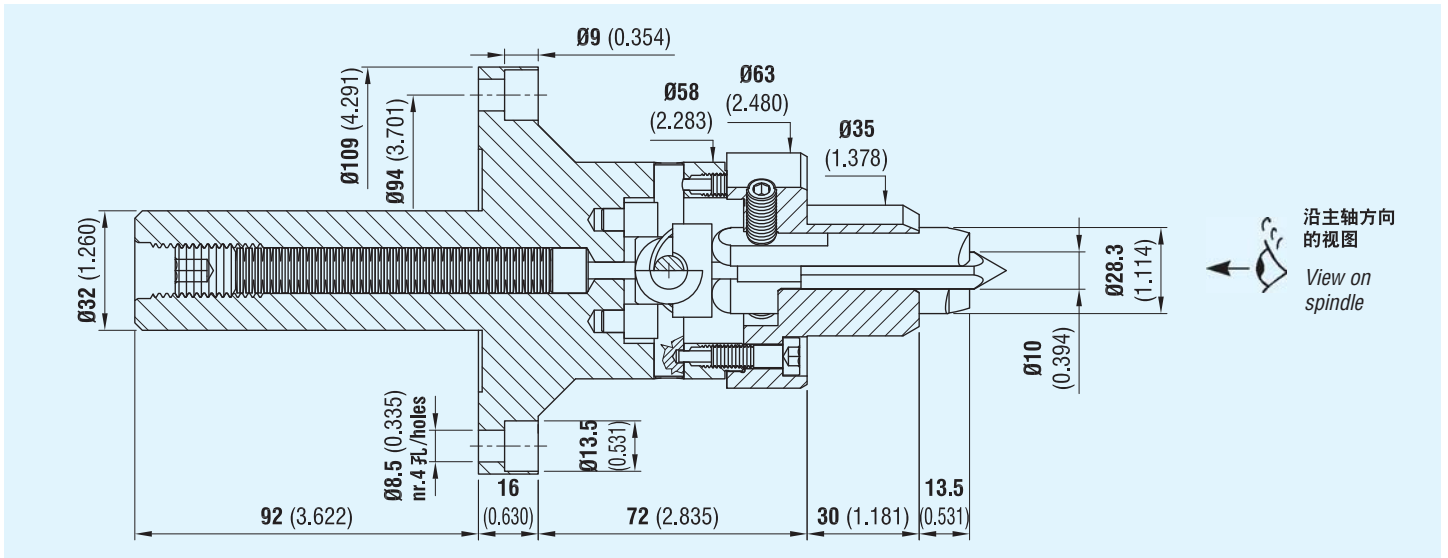
FACE DRIVER 12/50 WITH MORSE TAPER FITTING



右旋代码 Code right rotation	左旋代码 Code left rotation	锥度 Taper
070752033	070752034	CM3/MT3
070752141	070752142	CM4/MT4
070752251	070752252	CM5/MT5
070752361	070752362	CM6 /MT6

含整体法兰的端面驱动顶尖 12/50

FACE DRIVER 12/50 WITH INTEGRAL FLANGE



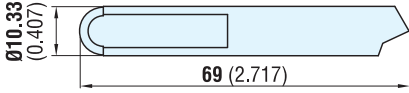
右旋代码 Code right rotation	左旋代码 Code left rotation
070760018	070760009

备件

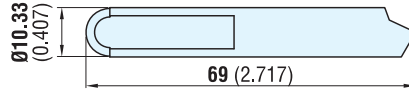
12/50 传动销

SPARE PARTS

Driving pins for 12/50



左旋 /left rotation



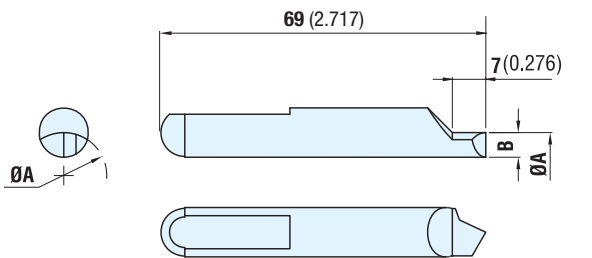
右旋 /right rotation

左旋代码 Code left rotation	右旋代码 Code right rotation
080809002	080809003

12/50 低位传动销

Lowered driving pins for 12/50

注：关于这些尺寸，请联系我们的技术部门
WARNING: contact our technical department for these dimensions

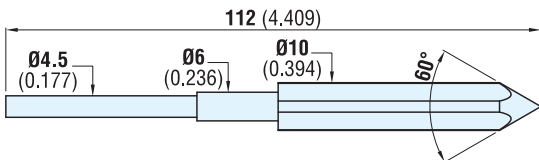


左旋代码 Code left rotation	Ø A	B
090909012	12 (0.472)	2.1 (0.083)
090909013	13 (0.512)	2.6 (0.102)
090909014	14 (0.551)	3.1 (0.122)
090909015	15 (0.591)	3.6 (0.142)
090909016	16 (0.630)	4.1 (0.161)
090909017	17 (0.669)	4.6 (0.181)
090909018	18 (0.709)	5.1 (0.201)
090909019	19 (0.748)	5.6 (0.220)
090909020	20 (0.787)	6.1 (0.240)
090909021	21 (0.827)	6.6 (0.260)
090909022	22 (0.866)	7.1 (0.280)
090909023	23 (0.906)	7.6 (0.299)
090909024	24 (0.945)	8.1 (0.319)
090909025	25 (0.984)	8.6 (0.339)

右旋代码 Code right rotation	Ø A	B
090909112	12 (0.472)	2.1 (0.083)
090909113	13 (0.512)	2.6 (0.102)
090909114	14 (0.551)	3.1 (0.122)
090909115	15 (0.591)	3.6 (0.142)
090909116	16 (0.630)	4.1 (0.161)
090909117	17 (0.669)	4.6 (0.181)
090909118	18 (0.709)	5.1 (0.201)
090909119	19 (0.748)	5.6 (0.220)
090909120	20 (0.787)	6.1 (0.240)
090909121	21 (0.827)	6.6 (0.260)
090909122	22 (0.866)	7.1 (0.280)
090909123	23 (0.906)	7.6 (0.299)
090909124	24 (0.945)	8.1 (0.319)
090909125	25 (0.984)	8.6 (0.339)

12/50 顶尖端

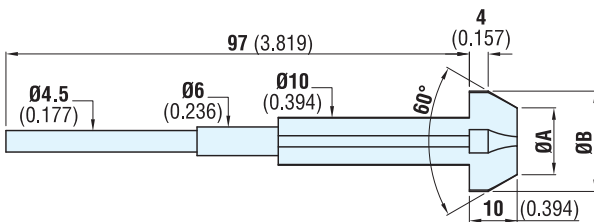
Center point for 12/50



代码 Code
072102741

含插槽的 12/50 顶尖端
(适于大型顶尖或孔)

Center points with slots for 12/50
(for large centers or holes)



含插槽的 顶尖端代码 Code centre points with slots	含插槽的顶尖端尺寸 Dimensions points with slots		适于顶尖或“F”孔 For centers or “F” holes	
	Ø A	Ø B	(最小)/from Ø	(最大)/to Ø
171711009	5 (0.197)	12 (0.472)	7.5 (0.295)	10.5 (0.413)
171711010	8 (0.315)	15 (0.591)	10.5 (0.413)	13.5 (0.531)
171711011	11 (0.433)	18 (0.709)	13.5 (0.531)	16.5 (0.650)
171711012	14 (0.551)	21 (0.827)	16.5 (0.650)	19.5 (0.768)
171711013	17 (0.669)	24 (0.945)	19.5 (0.768)	22.5 (0.886)
171711014	20 (0.787)	27 (1.063)	22.5 (0.886)	25.5 (1.004)

特性:

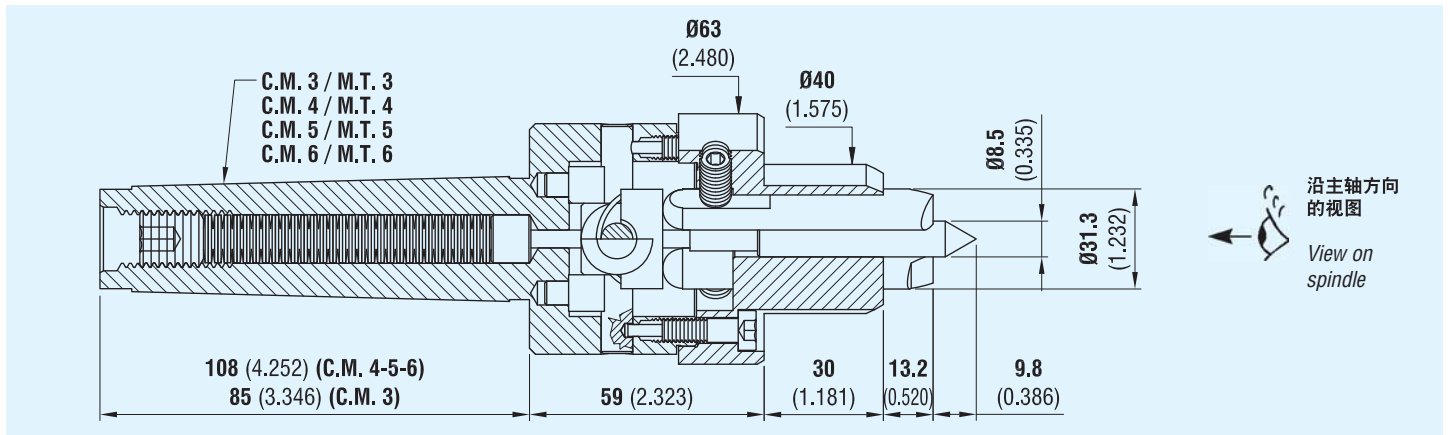
该端面驱动顶尖适合加工直径在 15mm (0.591 英寸) 和 55mm (2.165 英寸) 之间的轴。也可从端面驱动顶尖侧进行大型工具加工；可在不拆卸其他端面驱动顶尖部件情况下更换顶尖端和传动销。

FEATURES:

This face driver is suitable for machining shafts of between 15 (inch 0.591) and 55 (inch 2.165) millimetres in diameter. Machining with large tools can also be carried out from the face driver side; the center point and the driving pins can be replaced without having to remove other face driver components.

含莫氏锥度配件的端面驱动顶尖 15/55

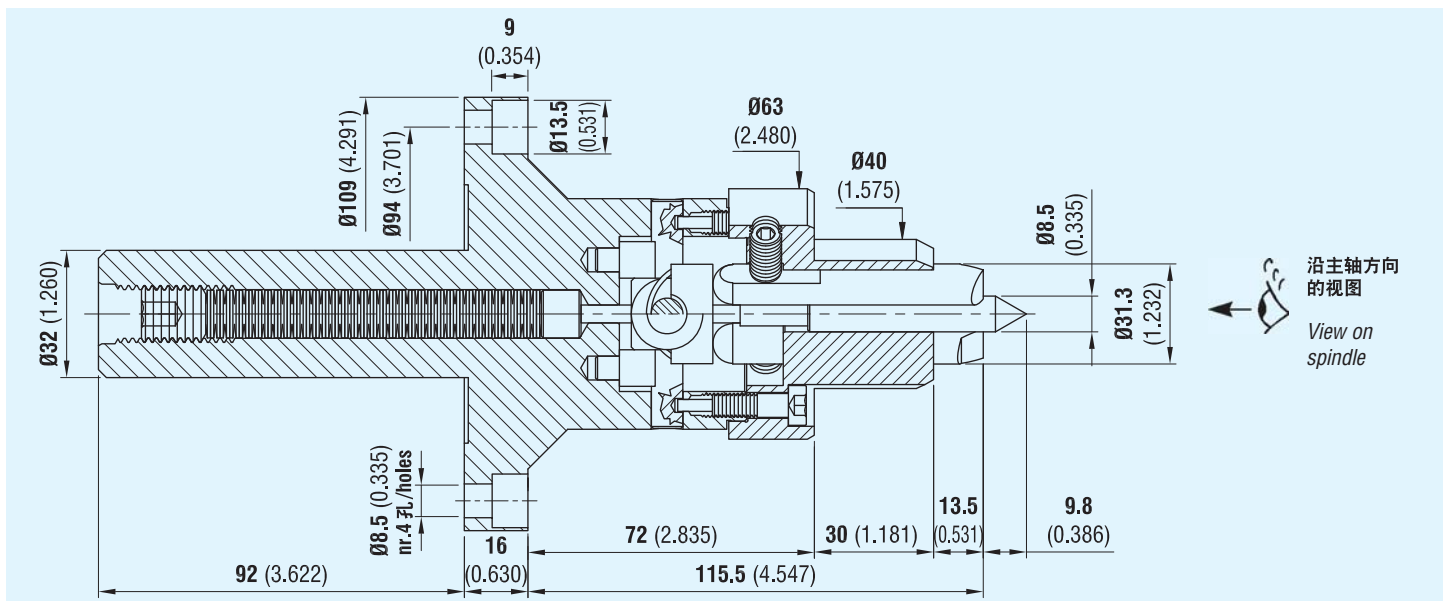
FACE DRIVER 15/55 WITH MORSE TAPER FITTING



右旋代码 Code right rotation	左旋代码 Code left rotation	锥度 Taper
070752390	070752391	CM3/MT3
070752392	070752393	CM4/MT4
070752394	070752395	CM5/MT5
070752396	070752397	CM6/MT6

含整体法兰的端面驱动顶尖 15/55

FACE DRIVER 15/55 WITH INTEGRAL FLANGE



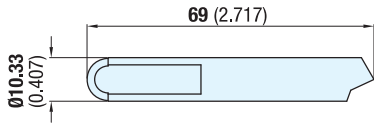
右旋代码 Code right rotation	左旋代码 Code left rotation
070752406	070752407

备件

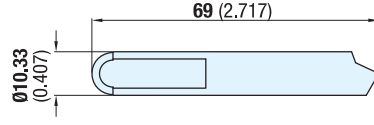
SPARE PARTS

15/55 传动销

Driving pins for 15/55



左旋 /left rotation



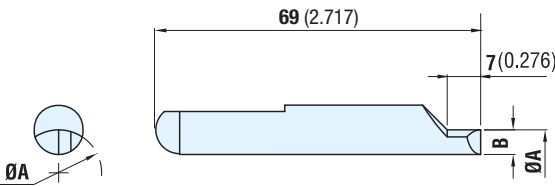
右旋 /right rotation

左旋代码 Code left rotation	右旋代码 Code right rotation
080809002	080809003

15/55 低位传动销

Lowered driving pins for 15/55

注：关于这些尺寸，请联系我们的技术部门
 WARNING: contact our technical department for these dimensions

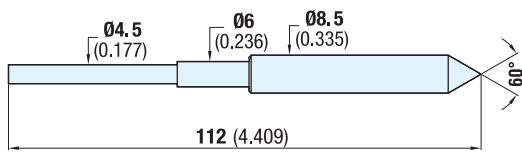


左旋代码 Code left rotation	Ø A	B
090909012	15 (0.591)	2.1 (0.083)
090909013	16 (0.630)	2.6 (0.102)
090909014	17 (0.669)	3.1 (0.122)
090909015	18 (0.709)	3.6 (0.142)
090909016	19 (0.748)	4.1 (0.161)
090909017	20 (0.787)	4.6 (0.181)
090909018	21 (0.827)	5.1 (0.201)
090909019	22 (0.866)	5.6 (0.220)
090909020	23 (0.906)	6.1 (0.240)
090909021	24 (0.945)	6.6 (0.260)
090909022	25 (0.984)	7.1 (0.280)
090909023	26 (1.024)	7.6 (0.299)
090909024	27 (1.063)	8.1 (0.319)
090909025	28 (1.102)	8.6 (0.339)

右旋代码 Code right rotation	Ø A	B
090909112	15 (0.591)	2.1 (0.083)
090909113	16 (0.630)	2.6 (0.102)
090909114	17 (0.669)	3.1 (0.122)
090909115	18 (0.709)	3.6 (0.142)
090909116	19 (0.748)	4.1 (0.161)
090909117	20 (0.787)	4.6 (0.181)
090909118	21 (0.827)	5.1 (0.201)
090909119	22 (0.866)	5.6 (0.220)
090909120	23 (0.906)	6.1 (0.240)
090909121	24 (0.945)	6.6 (0.260)
090909122	25 (0.984)	7.1 (0.280)
090909123	26 (1.024)	7.6 (0.299)
090909124	27 (1.063)	8.1 (0.319)
090909125	28 (1.102)	8.6 (0.339)

15/55 顶尖端

Center point for 15/55



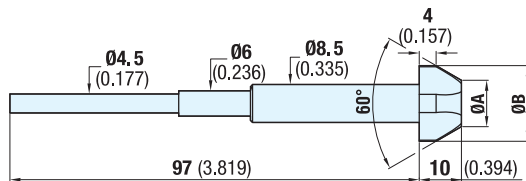
代码 Code
072102766

含插槽的 15/55 顶尖端

(适于大型顶尖或孔)

Center points with slots for 15/55

(for large centers or holes)



含插槽的 顶尖端代码 Code centre points with slots	含插槽的顶尖端尺寸 Dimensions points with slots		适于顶尖或“F”孔 For centers or “F” holes	
	Ø A	Ø B	from / dal Ø	to / al Ø
171711015	5 (0.197)	12 (0.472)	7.5 (0.295)	10.5 (0.413)
171711016	8 (0.315)	15 (0.591)	10.5 (0.413)	13.5 (0.531)
171711017	11 (0.433)	18 (0.709)	13.5 (0.531)	16.5 (0.650)
171711019	14 (0.551)	21 (0.827)	16.5 (0.650)	19.5 (0.768)
171711020	17 (0.669)	24 (0.945)	19.5 (0.768)	22.5 (0.886)
171711022	20 (0.787)	27 (1.063)	22.5 (0.886)	25.5 (1.004)

特性:

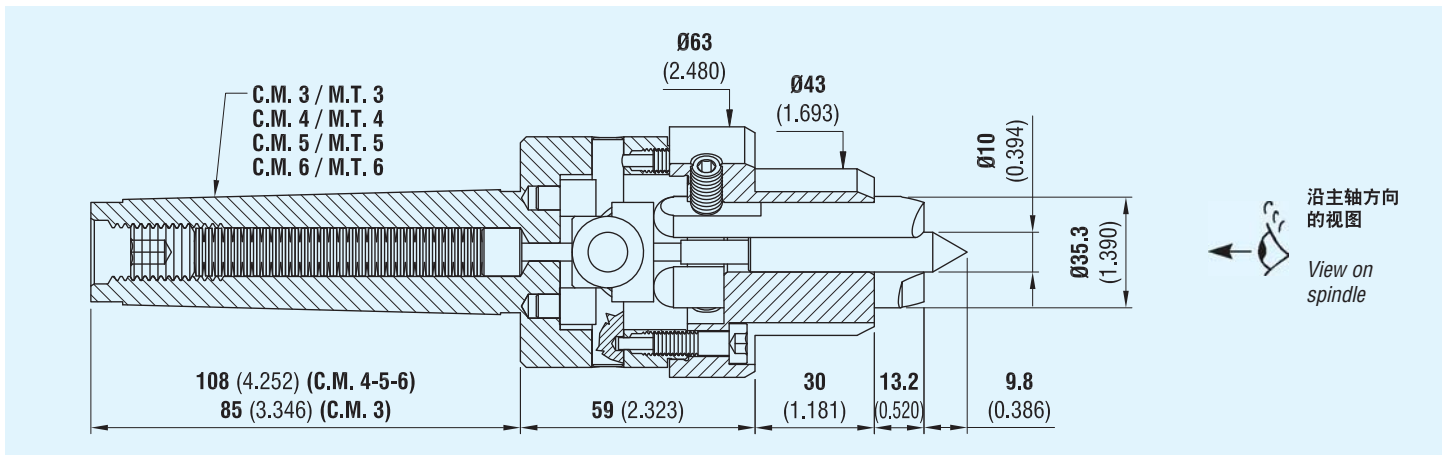
该端面驱动顶尖适合加工直径在 20mm (0.787 英寸) 和 60mm (2.362 英寸) 之间的轴。也可从端面驱动顶尖侧进行大型工具加工；可在不拆卸其他端面驱动顶尖部件情况下更换顶尖端和传动销。

FEATURES:

This face driver is suitable for machining shafts of between 20 (inch 0.787) and 60 (inch 2.362) millimetres in diameter. Machining with large tools can also be carried out from the face driver side; the center point and the driving pins can be replaced without having to remove other face driver components.

含莫氏锥度配件的端面驱动顶尖 20/60

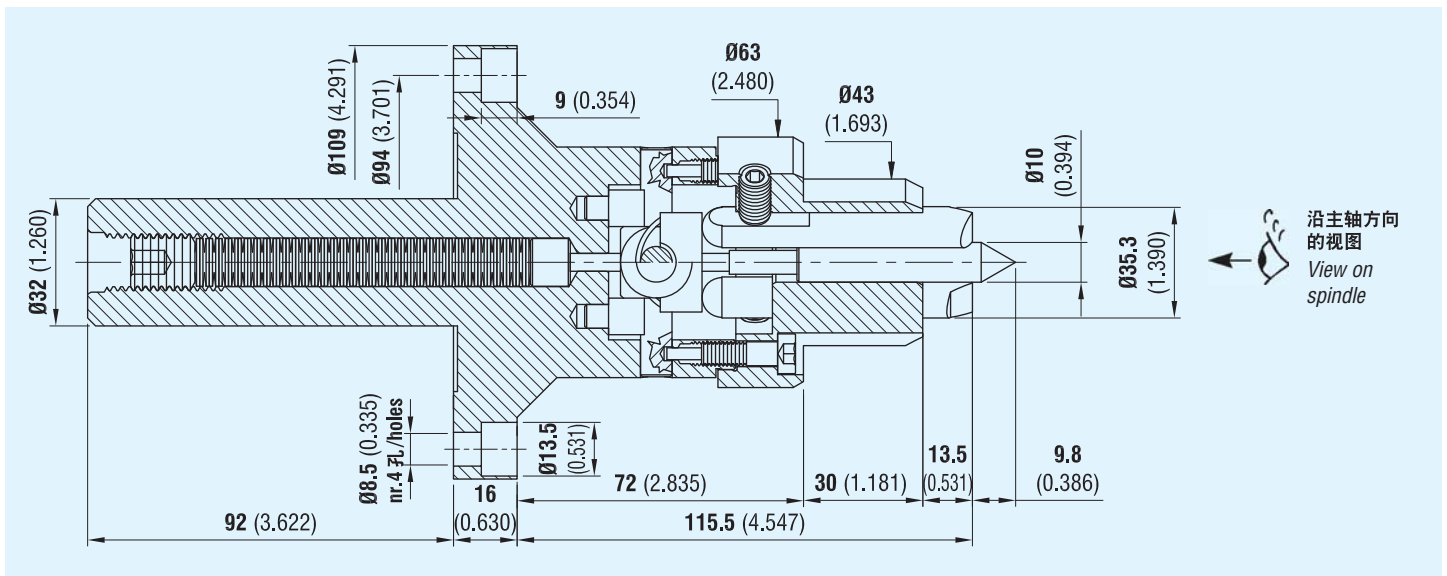
FACE DRIVER 20/60 WITH MORSE TAPER FITTING



右旋代码 Code right rotation	左旋代码 Code left rotation	锥度 Taper
070752398	070752399	CM3/MT3
070752400	070752401	CM4/MT4
070752402	070752403	CM5/MT5
070752404	070752405	CM6/MT6

含整体法兰的端面驱动顶尖 20/60

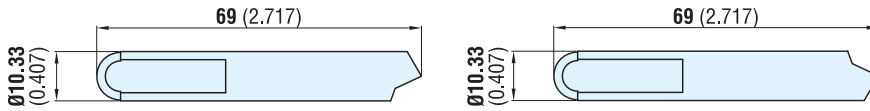
FACE DRIVER 20/60 WITH INTEGRAL FLANGE



右旋代码 Code right rotation	左旋代码 Code left rotation
070752408	070752409

备件

20/60 传动销



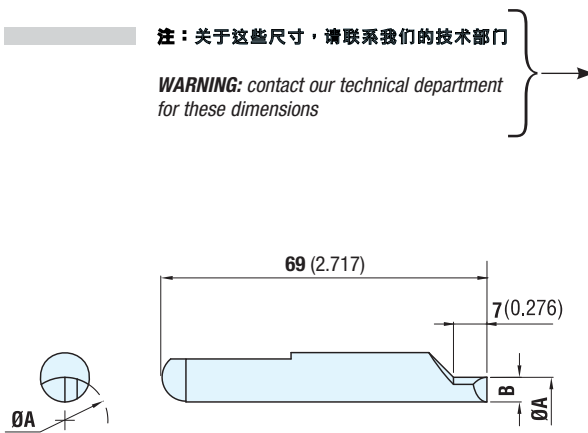
SPARE PARTS

Driving pins for 20/60

左旋代码 Code left rotation	右旋代码 Code right rotation
080809002	080809003

20/60 低位传动销

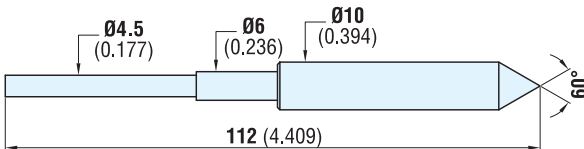
Lowered driving pins for 20/60



左旋代码 Code left rotation	Ø A	B	右旋代码 Code right rotation	Ø A	B
090909012	19 (0.748)	2.1 (0.083)	090909112	19 (0.748)	2.1 (0.083)
090909013	20 (0.787)	2.6 (0.102)	090909113	20 (0.787)	2.6 (0.102)
090909014	21 (0.827)	3.1 (0.122)	090909114	21 (0.827)	3.1 (0.122)
090909015	22 (0.866)	3.6 (0.142)	090909115	22 (0.866)	3.6 (0.142)
090909016	23 (0.906)	4.1 (0.161)	090909116	23 (0.906)	4.1 (0.161)
090909017	24 (0.945)	4.6 (0.181)	090909117	24 (0.945)	4.6 (0.181)
090909018	25 (0.984)	5.1 (0.201)	090909118	25 (0.984)	5.1 (0.201)
090909019	26 (1.024)	5.6 (0.220)	090909119	26 (1.024)	5.6 (0.220)
090909020	27 (1.063)	6.1 (0.240)	090909120	27 (1.063)	6.1 (0.240)
090909021	28 (1.102)	6.6 (0.260)	090909121	28 (1.102)	6.6 (0.260)
090909022	29 (1.142)	7.1 (0.280)	090909122	29 (1.142)	7.1 (0.280)
090909023	30 (1.181)	7.6 (0.299)	090909123	30 (1.181)	7.6 (0.299)
090909024	31 (1.220)	8.1 (0.319)	090909124	31 (1.220)	8.1 (0.319)
090909025	32 (1.260)	8.6 (0.339)	090909125	32 (1.260)	8.6 (0.339)

20/60 顶尖端

Center point for 20/60



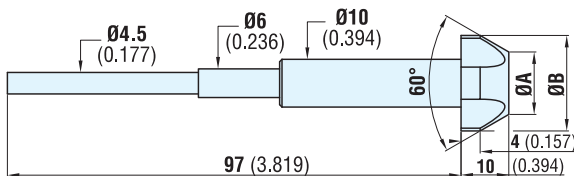
代码 Code
072102767

含插槽的 20/60 顶尖端

(适于大型顶尖或孔)

Center points with slots for 20/60

(for large centers or holes)



含插槽的 顶尖端代码 Code centre points with slots	含插槽的顶尖端尺寸 Dimensions points with slots		适于顶尖或“F”孔 For centers or “F” holes	
	Ø A	Ø B		
171712018	5 (0.197)	12 (0.472)	7.5 (0.295)	10.5 (0.413)
171712019	8 (0.315)	15 (0.591)	10.5 (0.413)	13.5 (0.531)
171712020	11 (0.433)	18 (0.709)	13.5 (0.531)	16.5 (0.650)
171712022	14 (0.551)	21 (0.827)	16.5 (0.650)	19.5 (0.768)
171712024	17 (0.669)	24 (0.945)	19.5 (0.768)	22.5 (0.886)
171712026	20 (0.787)	27 (1.063)	22.5 (0.886)	25.5 (1.004)
171712027	23 (0.906)	30 (1.181)	25.5 (1.004)	28.5 (1.122)

特性:

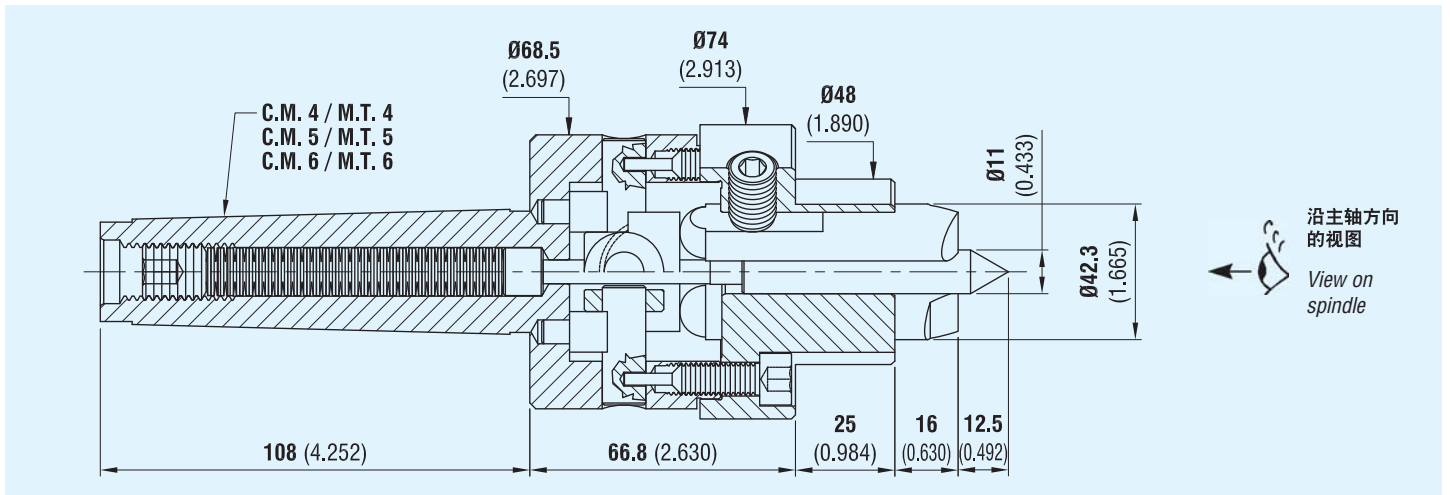
该端面驱动顶尖适合加工直径在 20mm (0.787 英寸) 和 70mm (2.756 英寸) 之间的轴。
也可从端面驱动顶尖侧进行大型工具加工；可在不拆卸其他端面驱动顶尖部件情况下更换顶尖端和传动销。

FEATURES:

This face driver is suitable for machining shafts of between 20 (inch 0.787) and 70 (inch 2.756) millimetres in diameter.
Machining with large tools can also be carried out from the face driver side; the center point and the driving pins can be replaced without having to remove other face driver components.

含莫氏锥度配件的端面驱动顶尖 20/70

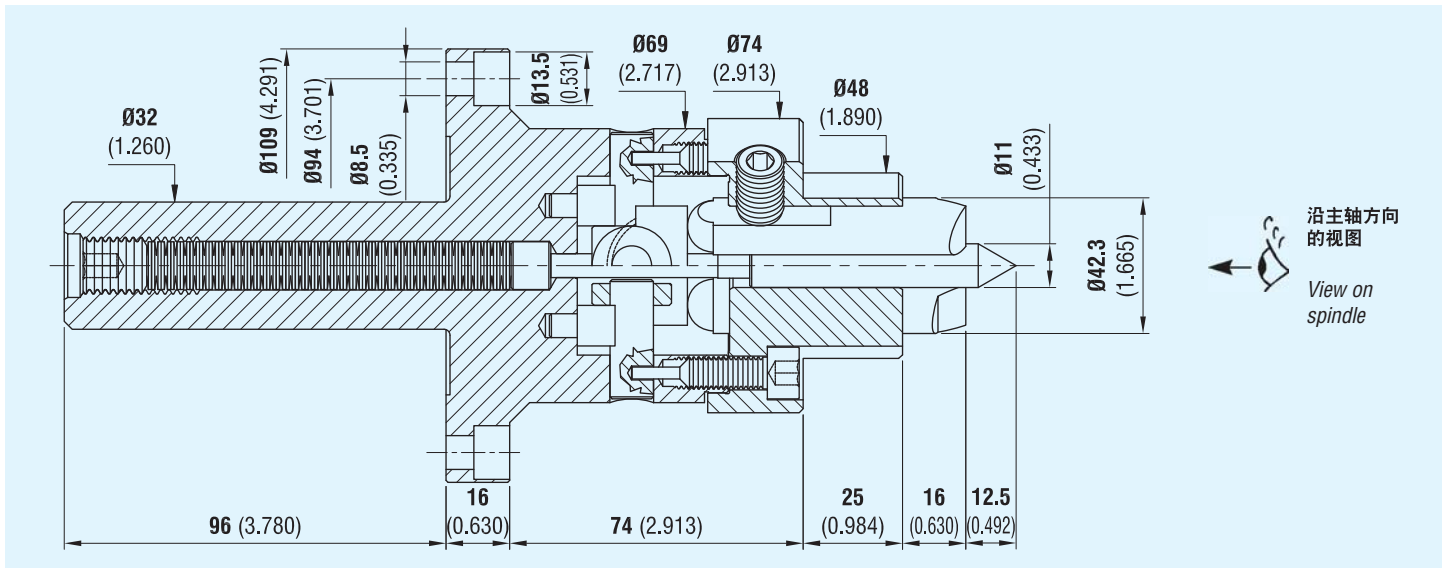
FACE DRIVER 20/70 WITH MORSE TAPER FITTING



右旋代码 Code right rotation	左旋代码 Code left rotation	锥度 Taper
070752365	070752366	CM4/MT4
070752367	070752368	CM5/MT5
070752369	070752370	CM6/MT6

含整体法兰的端面驱动顶尖 20/70

FACE DRIVER 20/70 WITH INTEGRAL FLANGE



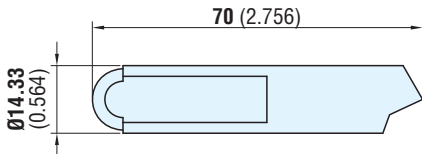
右旋代码 Code right rotation	左旋代码 Code left rotation
070760030	070760028

备件

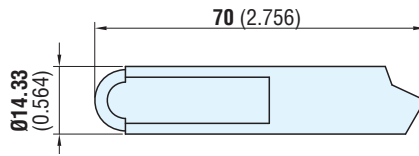
20/70 传动销

SPARE PARTS

Driving pins for 20/70



左旋 /left rotation



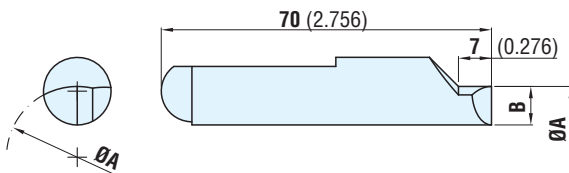
右旋 /right rotation

左旋代码 Code left rotation	右旋代码 Code right rotation
080809004	080809005

20/70 低位传动销

Lowered driving pins for 20/70

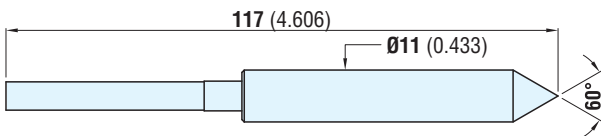
注：关于这些尺寸，请联系我们的技术部门
 WARNING: contact our technical department for these dimensions



左旋代码 Code left rotation	Ø A	B	右旋代码 Code right rotation	Ø A	B
090909219	19 (0.748)	2.7 (0.106)	090909319	19 (0.748)	2.7 (0.106)
090909220	20 (0.787)	3.2 (0.126)	090909320	20 (0.787)	3.2 (0.126)
090909221	21 (0.827)	3.7 (0.146)	090909321	21 (0.827)	3.7 (0.146)
090909222	22 (0.866)	4.2 (0.165)	090909322	22 (0.866)	4.2 (0.165)
090909223	23 (0.906)	4.7 (0.185)	090909323	23 (0.906)	4.7 (0.185)
090909224	24 (0.945)	5.2 (0.205)	090909324	24 (0.945)	5.2 (0.205)
090909225	25 (0.984)	5.7 (0.224)	090909325	25 (0.984)	5.7 (0.224)
090909226	26 (1.024)	6.2 (0.244)	090909326	26 (1.024)	6.2 (0.244)
090909227	27 (1.063)	6.7 (0.264)	090909327	27 (1.063)	6.7 (0.264)
090909228	28 (1.102)	7.2 (0.283)	090909328	28 (1.102)	7.2 (0.283)
090909229	29 (1.142)	7.7 (0.303)	090909329	29 (1.142)	7.7 (0.303)
090909230	30 (1.181)	8.2 (0.323)	090909330	30 (1.181)	8.2 (0.323)
090909231	31 (1.220)	8.7 (0.343)	090909331	31 (1.220)	8.7 (0.343)
090909232	32 (1.260)	9.2 (0.362)	090909332	32 (1.260)	9.2 (0.362)
090909233	33 (1.299)	9.7 (0.382)	090909333	33 (1.299)	9.7 (0.382)
090909234	34 (1.339)	10.2 (0.402)	090909334	34 (1.339)	10.2 (0.402)
090909235	35 (1.378)	10.7 (0.421)	090909335	35 (1.378)	10.7 (0.421)
090909236	36 (1.417)	11.2 (0.441)	090909336	36 (1.417)	11.2 (0.441)

20/70 顶尖端

Center point for 20/70



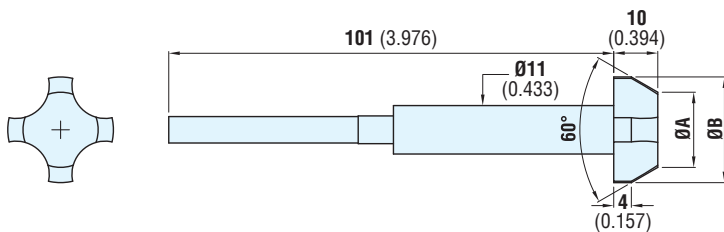
代码 Code
072102756

含插槽的 20/70 顶尖端

(适于大型顶尖或孔)

Center points with slots for 20/70

(for large centers or holes)



含插槽的 顶尖端代码 Code centre points with slots	含插槽的顶尖端尺寸 Dimensions points with slots		适于顶尖或“F”孔 For centers or “F” holes	
	Ø A	Ø B	(最小)/from Ø	(最大)/to Ø
171712010	8 (0.315)	15 (0.591)	10.5 (0.413)	13.5 (0.531)
171712011	11 (0.433)	18 (0.709)	13.5 (0.531)	16.5 (0.650)
171712012	14 (0.551)	21 (0.827)	16.5 (0.650)	19.5 (0.768)
171712013	17 (0.669)	24 (0.945)	19.5 (0.768)	22.5 (0.886)
171712014	20 (0.787)	27 (1.063)	22.5 (0.886)	25.5 (1.004)
171712015	23 (0.906)	30 (1.181)	25.5 (1.004)	28.5 (1.122)
171712016	26 (1.024)	33 (1.299)		
171712017	29 (1.142)	36 (1.417)		

FACE DRIVER 45/120

特性:

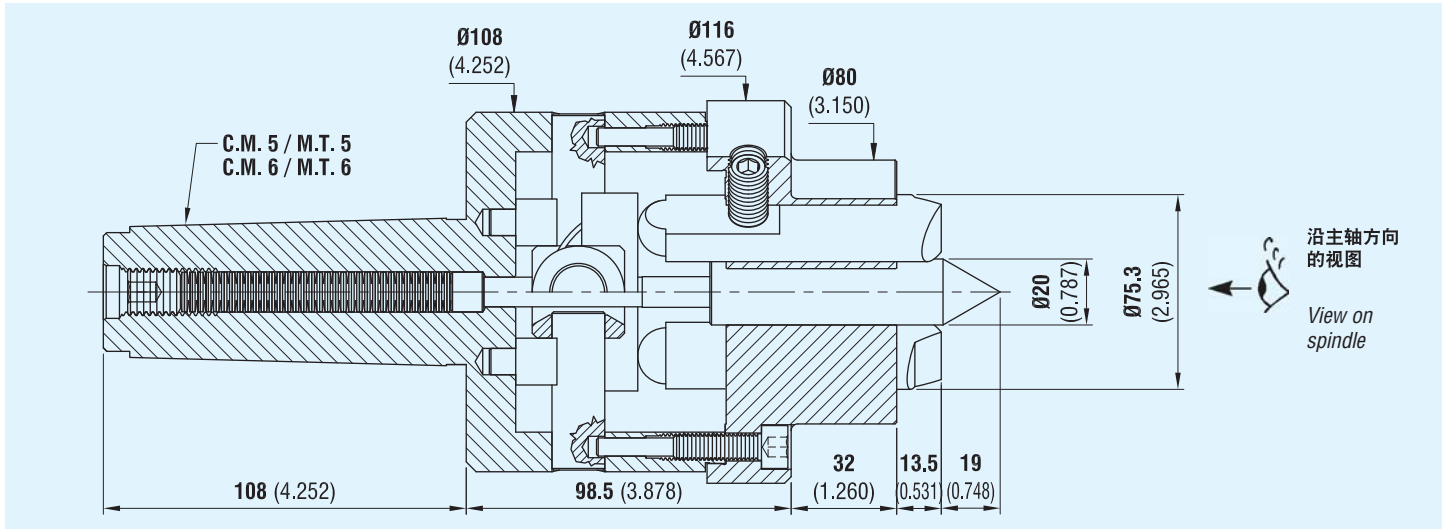
该端面驱动顶尖适合加工直径在 45mm (1.772 英寸) 和 120mm (4.724 英寸) 之间的轴。
也可从端面驱动顶尖侧进行大型工具加工；可在不拆卸其他端面驱动顶尖部件情况下更换顶尖端和传动销。

FEATURES:

This face driver is suitable for machining shafts of between 45 (inch 1.772) and 120 (inch 4.724) millimetres in diameter. Machining with large tools can also be carried out from the face driver side; the center point and the driving pins can be replaced without having to remove other face driver components.

含莫氏锥度配件的端面驱动顶尖 45/120

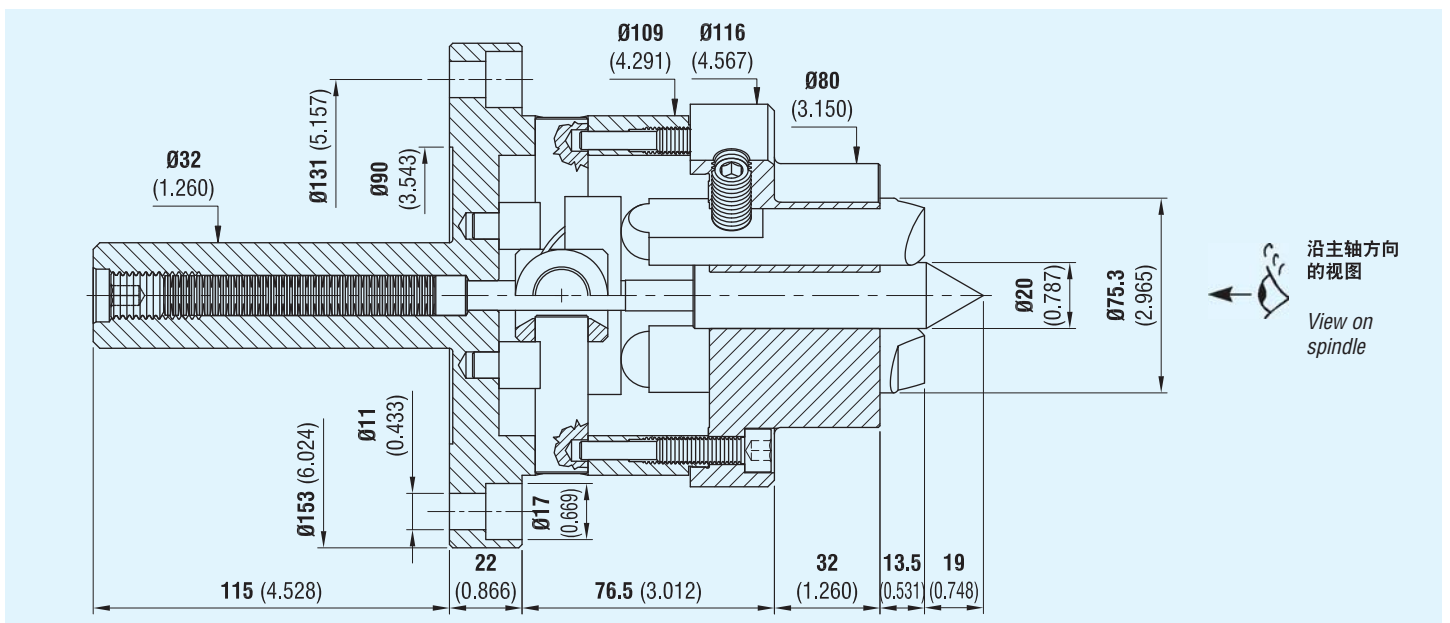
FACE DRIVER 45/120 WITH MORSE TAPER FITTING



右旋代码 Code right rotation	左旋代码 Code left rotation	锥度 Taper
070750756	070750755	CM5/MT5
070751066	070751065	CM6/MT6

含整体法兰的端面驱动顶尖 45/120

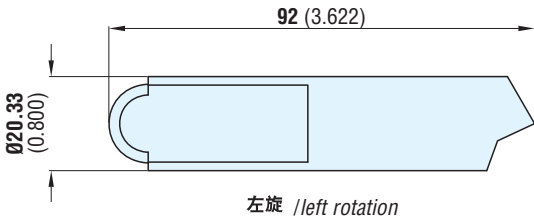
FACE DRIVER 45/120 WITH INTEGRAL FLANGE



右旋代码 Code right rotation	左旋代码 Code left rotation
070760034	070760032

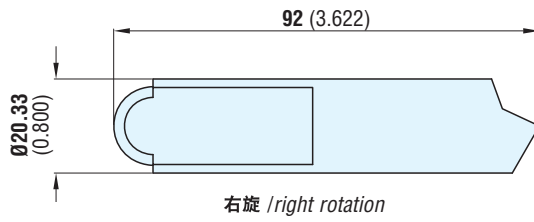
备件

45/120 传动销



SPARE PARTS

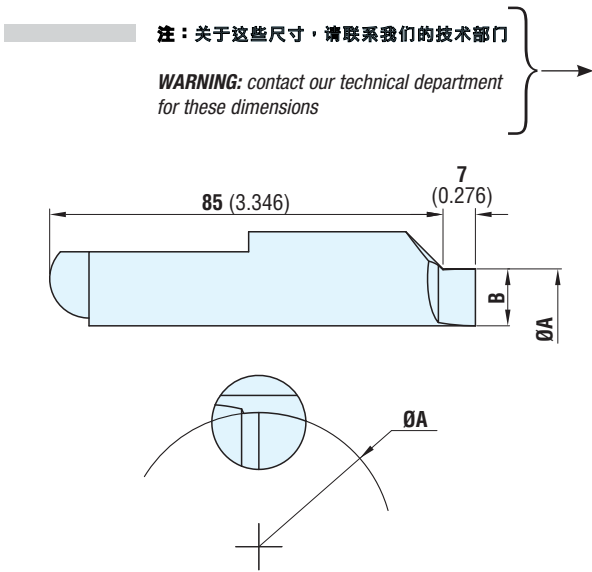
Driving pins for 45/120



左旋代码 Code left rotation	080845014
右旋代码 Code right rotation	080845015

45/120 低位传动销

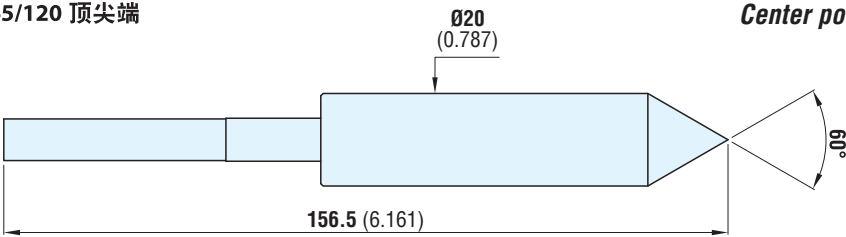
Lowered driving pins for 45/120



左旋代码 Code left rotation	Ø A	B	右旋代码 Code right rotation	Ø A	B
090945244	44 (1.732)	4.8 (0.189)	090945344	44 (1.732)	4.8 (0.189)
090945245	45 (1.772)	5.3 (0.209)	090945345	45 (1.772)	5.3 (0.209)
090945246	46 (1.811)	5.8 (0.228)	090945346	46 (1.811)	5.8 (0.228)
090945247	47 (1.850)	6.3 (0.248)	090945347	47 (1.850)	6.3 (0.248)
090945248	48 (1.890)	6.8 (0.268)	090945348	48 (1.890)	6.8 (0.268)
090945249	49 (1.929)	7.3 (0.287)	090945349	49 (1.929)	7.3 (0.287)
090945250	50 (1.969)	7.8 (0.307)	090945350	50 (1.969)	7.8 (0.307)
090945251	51 (2.008)	8.3 (0.327)	090945351	51 (2.008)	8.3 (0.327)
090945252	52 (2.047)	8.8 (0.346)	090945352	52 (2.047)	8.8 (0.346)
090945253	53 (2.087)	9.3 (0.366)	090945353	53 (2.087)	9.3 (0.366)
090945254	54 (2.126)	9.8 (0.386)	090945354	54 (2.126)	9.8 (0.386)
090945255	55 (2.165)	10.3 (0.406)	090945355	55 (2.165)	10.3 (0.406)
090945256	56 (2.205)	10.8 (0.425)	090945356	56 (2.205)	10.8 (0.425)
090945257	57 (2.244)	11.3 (0.445)	090945357	57 (2.244)	11.3 (0.445)
090945258	58 (2.283)	11.8 (0.465)	090945358	58 (2.283)	11.8 (0.465)
090945259	59 (2.323)	12.3 (0.484)	090945359	59 (2.323)	12.3 (0.484)
090945260	60 (2.362)	12.8 (0.504)	090945360	60 (2.362)	12.8 (0.504)
090945261	61 (2.402)	13.3 (0.524)	090945361	61 (2.402)	13.3 (0.524)
090945262	62 (2.441)	13.8 (0.543)	090945362	62 (2.441)	13.8 (0.543)
090945263	63 (2.480)	14.3 (0.563)	090945363	63 (2.480)	14.3 (0.563)
090945264	64 (2.520)	14.8 (0.583)	090945364	64 (2.520)	14.8 (0.583)
090945265	65 (2.559)	15.3 (0.602)	090945365	65 (2.559)	15.3 (0.602)

45/120 顶尖端

Center point for 45/120



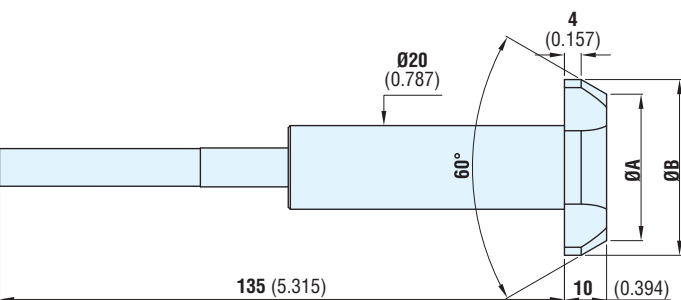
代码 Code	072102758
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含插槽的 45/120 顶尖端

(适于大型顶尖或孔)

Center points with slots for 45/120

(for large centers or holes)



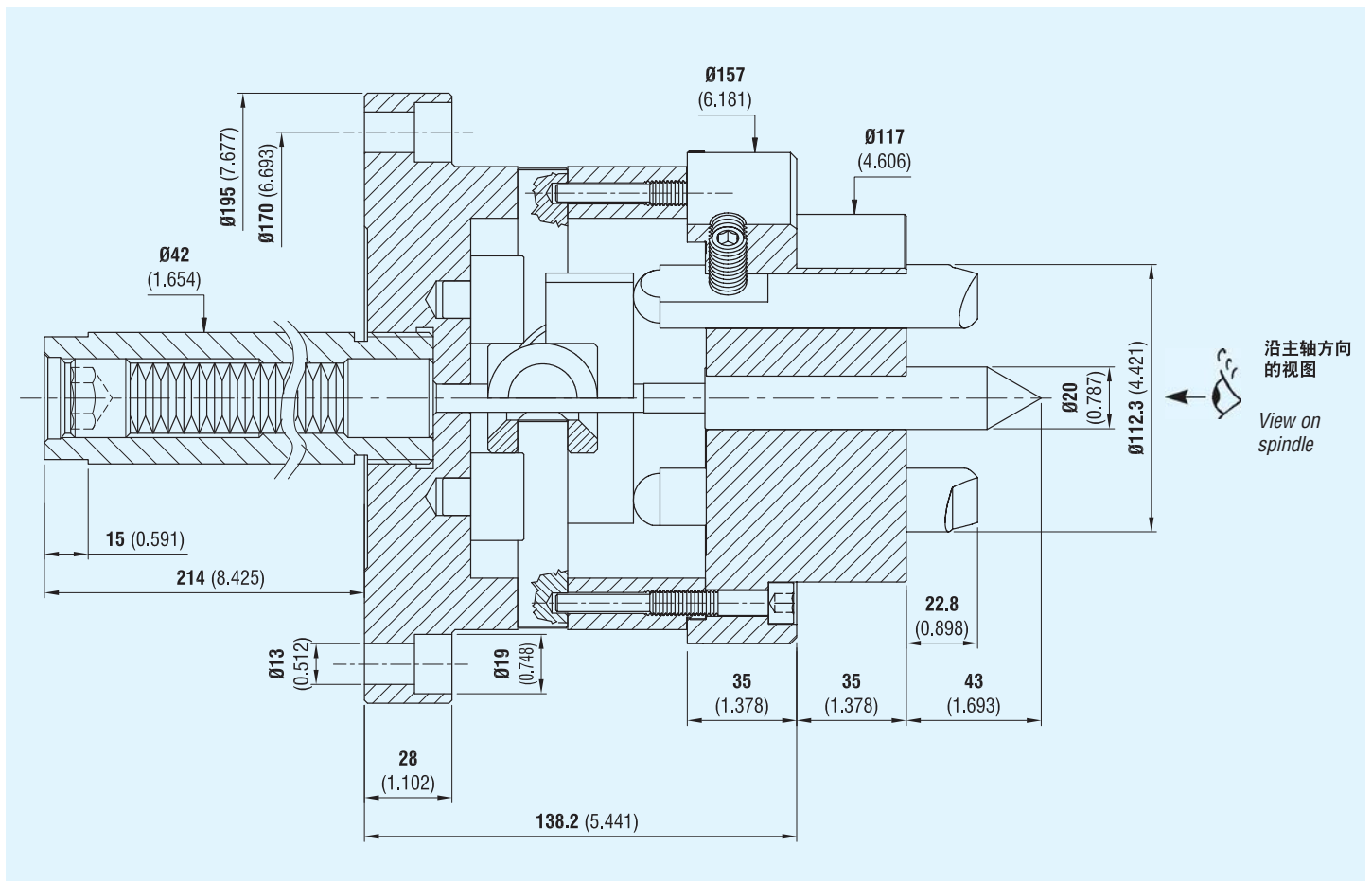
含插槽的 顶尖端代码 Code centre points with slots	含插槽的顶尖端尺寸 Dimensions points with slots		适于顶尖或“F”孔 For centers or “F” holes	
	Ø A	Ø B	(最小)/from Ø	(最大)/to Ø
171713020	14 (0.551)	21 (0.827)	16.5 (0.650)	19.5 (0.768)
171713021	17 (0.669)	24 (0.945)	19.5 (0.768)	22.5 (0.886)
171713022	20 (0.787)	27 (1.063)	22.5 (0.886)	25.5 (1.004)
171713023	23 (0.906)	30 (1.181)	25.5 (1.004)	28.5 (1.122)
171713024	26 (1.024)	33 (1.299)	28.5 (1.122)	31.5 (1.240)
171713025	29 (1.142)	36 (1.417)	31.5 (1.240)	34.5 (1.358)
171713026	32 (1.260)	39 (1.535)	34.5 (1.358)	37.5 (1.476)
171713027	35 (1.378)	42 (1.654)	37.5 (1.476)	40.5 (1.594)
171713028	38 (1.496)	45 (1.772)	40.5 (1.594)	43.5 (1.713)
171713029	41 (1.614)	48 (1.890)		
171713030	44 (1.732)	51 (2.008)		

特性:

该端面驱动顶尖适合加工直径在 100mm (3.937 英寸) 和 220mm (8.661 英寸) 之间的轴。也可从端面驱动顶尖侧进行大型工具加工；可在不拆卸其他端面驱动顶尖部件情况下更换顶尖端和传动销。

FEATURES:

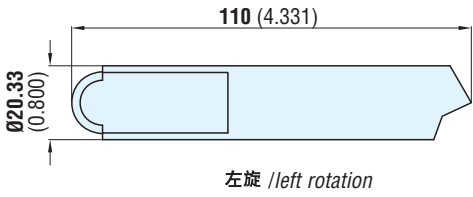
This face driver is suitable for machining shafts of between 100 (inch 3.937) and 220 (inch 8.661) millimetres in diameter. Machining with large tools can also be carried out from the face driver side; the center point and the driving pins can be replaced without having to remove other face driver components.



右旋代码 Code right rotation	左旋代码 Code left rotation
070760017	070760008

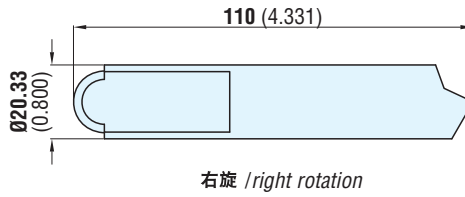
备件

100/220 传动销



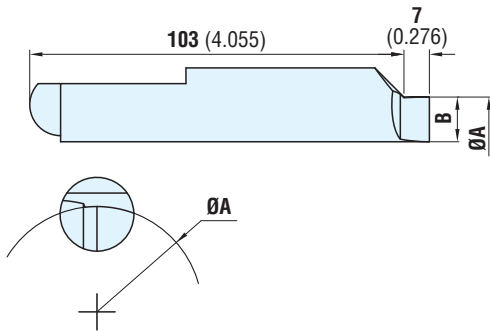
SPARE PARTS

Driving pins for 100/220



左旋代码 Code left rotation	右旋代码 Code right rotation
080810212	080810213

100/220 低位传动销

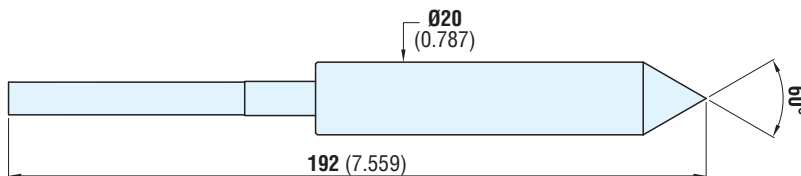


Lowered driving pins for 100/220

左旋代码 Code left rotation	Ø A	B
090900084	84 (3.307)	6.2 (0.244)
090900089	89 (3.504)	8.7 (0.343)
090900094	94 (3.701)	11.2 (0.441)
090900099	99 (3.898)	13.7 (0.539)

右旋代码 Code right rotation	Ø A	B
090901084	84 (3.307)	6.2 (0.244)
090901089	89 (3.504)	8.7 (0.343)
090901094	94 (3.701)	11.2 (0.441)
090901099	99 (3.898)	13.7 (0.539)

100/220 顶尖端

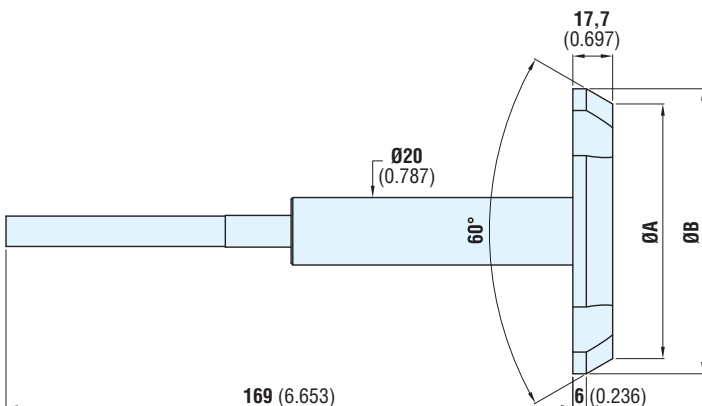


Center point for 100/220

代码 Code
072102739

含插槽的 100/220 顶尖端

(适于大型顶尖或孔)



Center points with slots for 100/220

(for large centers or holes)

含插槽的 顶尖端代码 Code centre points with slots	含插槽的顶尖端尺寸 Dimensions points with slots		适于顶尖或“F”孔 For centers or “F” holes	
	Ø A	Ø B	(最小)/from Ø	(最大)/to Ø
171714001	12.5 (0.492)	26 (1.024)	19.5 (0.768)	24 (0.945)
171714002	17 (0.669)	30.5 (1.201)	24 (0.945)	28.5 (1.122)
171714003	21.5 (0.846)	35 (1.378)	28.5 (1.122)	33 (1.299)
171714004	26 (1.024)	39.5 (1.555)	33 (1.299)	37.5 (1.476)
171714005	30.5 (1.201)	44 (1.732)	37.5 (1.476)	42 (1.654)
171714006	35 (1.378)	48.5 (1.909)	42 (1.654)	46.5 (1.831)
171714007	39.5 (1.555)	53 (2.087)	46.5 (1.831)	51 (2.008)
171714008	44 (1.732)	57.5 (2.264)	51 (2.008)	55.5 (2.185)
171714009	48.5 (1.909)	62 (2.441)	55.5 (2.185)	60 (2.362)
171714010	53 (2.087)	66.5 (2.618)	60 (2.362)	64.5 (2.539)
171714011	57.5 (2.264)	71 (2.795)	64.5 (2.539)	69 (2.717)
171714012	62 (2.441)	75.5 (2.972)	69 (2.717)	73.5 (2.894)
171714013	66.5 (2.618)	80 (3.150)	73.5 (2.894)	78 (3.071)
171714014	71 (2.795)	84.5 (3.327)	78 (3.071)	82.5 (3.248)
171714015	75.5 (2.972)	89 (3.504)	82.5 (3.248)	87 (3.425)
171714016	80 (3.150)	93.5 (3.681)	87 (3.425)	91.5 (3.602)
171714017	84.5 (3.327)	98 (3.858)		
171714018	89 (3.504)	102.5 (4.035)		

特性:

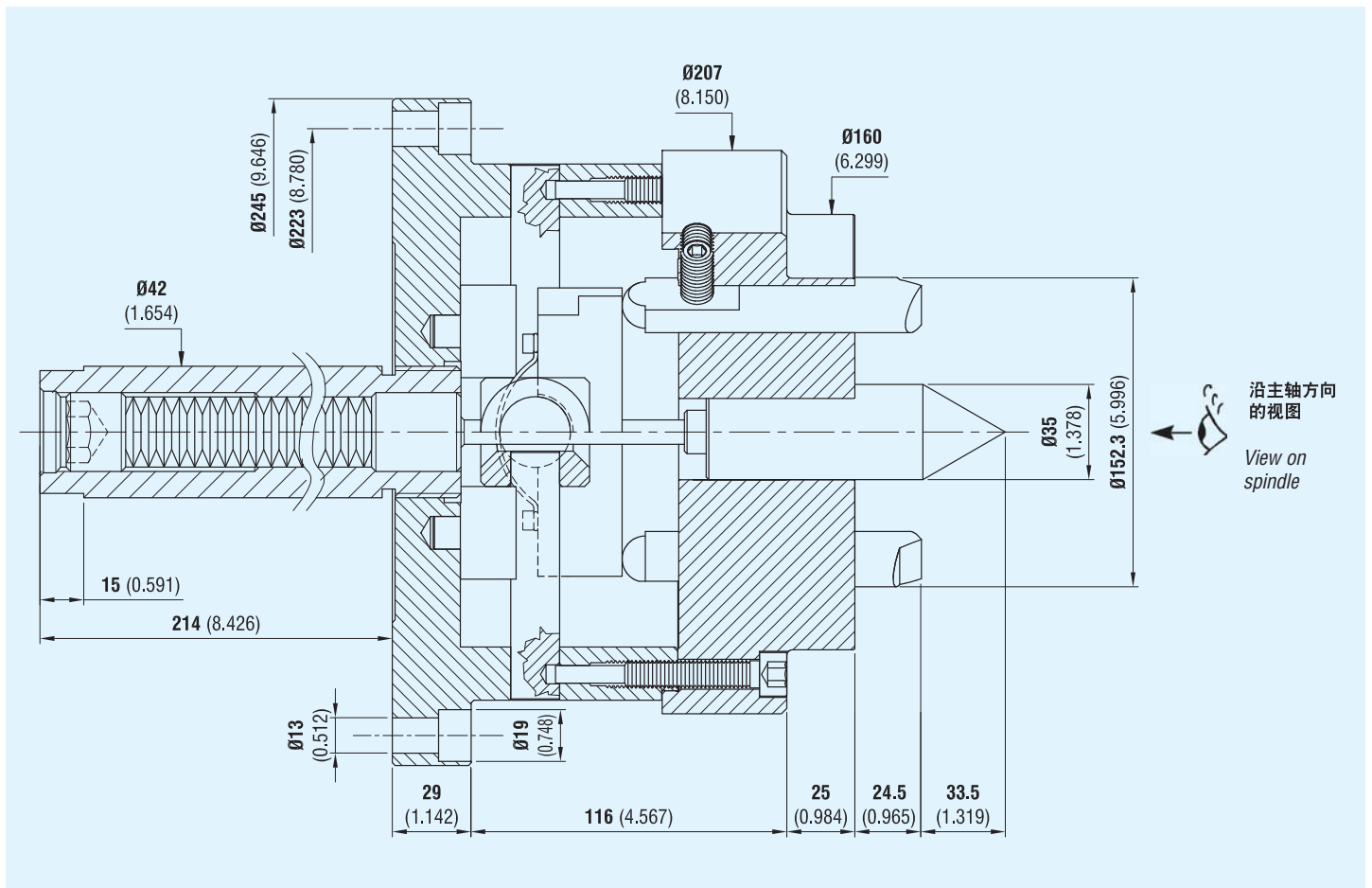
该端面驱动顶尖适合加工直径在 180mm (7.087 英寸) 和 300mm (11.811 英寸) 之间的轴。

也可从端面驱动顶尖侧进行大型工具加工；可在不拆卸其他端面驱动顶尖部件情况下更换顶尖端和传动销。

FEATURES:

This face driver is suitable for machining shafts of between 180 (inch 7.087) and 300 (inch 11.811) millimetres in diameter.

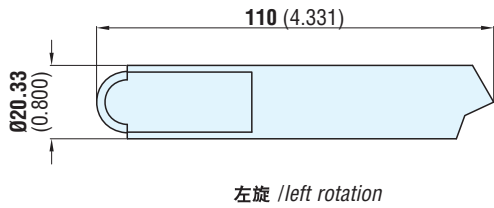
Machining with large tools can also be carried out from the face driver side; the center point and the driving pins can be replaced without having to remove other face driver components.



右旋代码 Code right rotation	左旋代码 Code left rotation
070760038	070760036

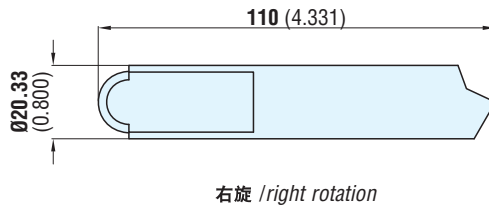
备件

180/300 传动销



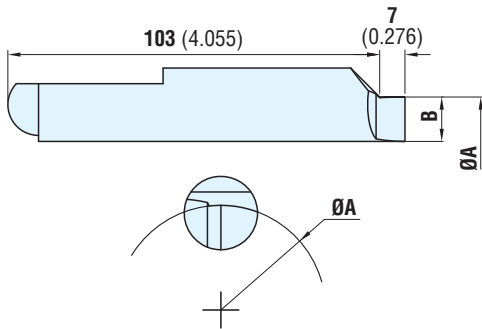
SPARE PARTS

Driving pins for 180/300



左旋代码 Code left rotation	右旋代码 Code right rotation
080810212	080810213

180/300 低位传动销



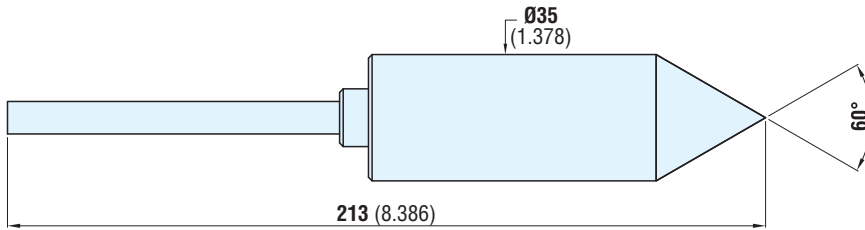
Lowered driving pins for 180/300

左旋代码 Code left rotation	Ø A	B
090900084	124 (4.882)	6.2 (0.244)
090900089	129 (5.079)	8.7 (0.343)
090900094	134 (5.276)	11.2 (0.441)
090900099	139 (5.472)	13.7 (0.539)

右旋代码 Code right rotation	Ø A	B
090901084	124 (4.882)	6.2 (0.244)
090901089	129 (5.079)	8.7 (0.343)
090901094	134 (5.276)	11.2 (0.441)
090901099	139 (5.472)	13.7 (0.539)

180/300 顶尖端

Center point for 180/300



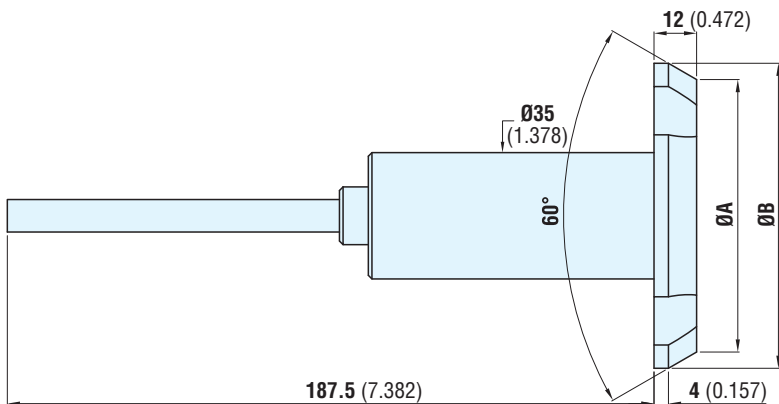
代码 Code
072102761

含插槽的 180/300 顶尖端

(适于大型顶尖或孔)

Center points with slots for 180/300

(for large centers or holes)



含液压缸控制的固定顶尖端和传动销的 法兰式端面驱动顶尖 12/50



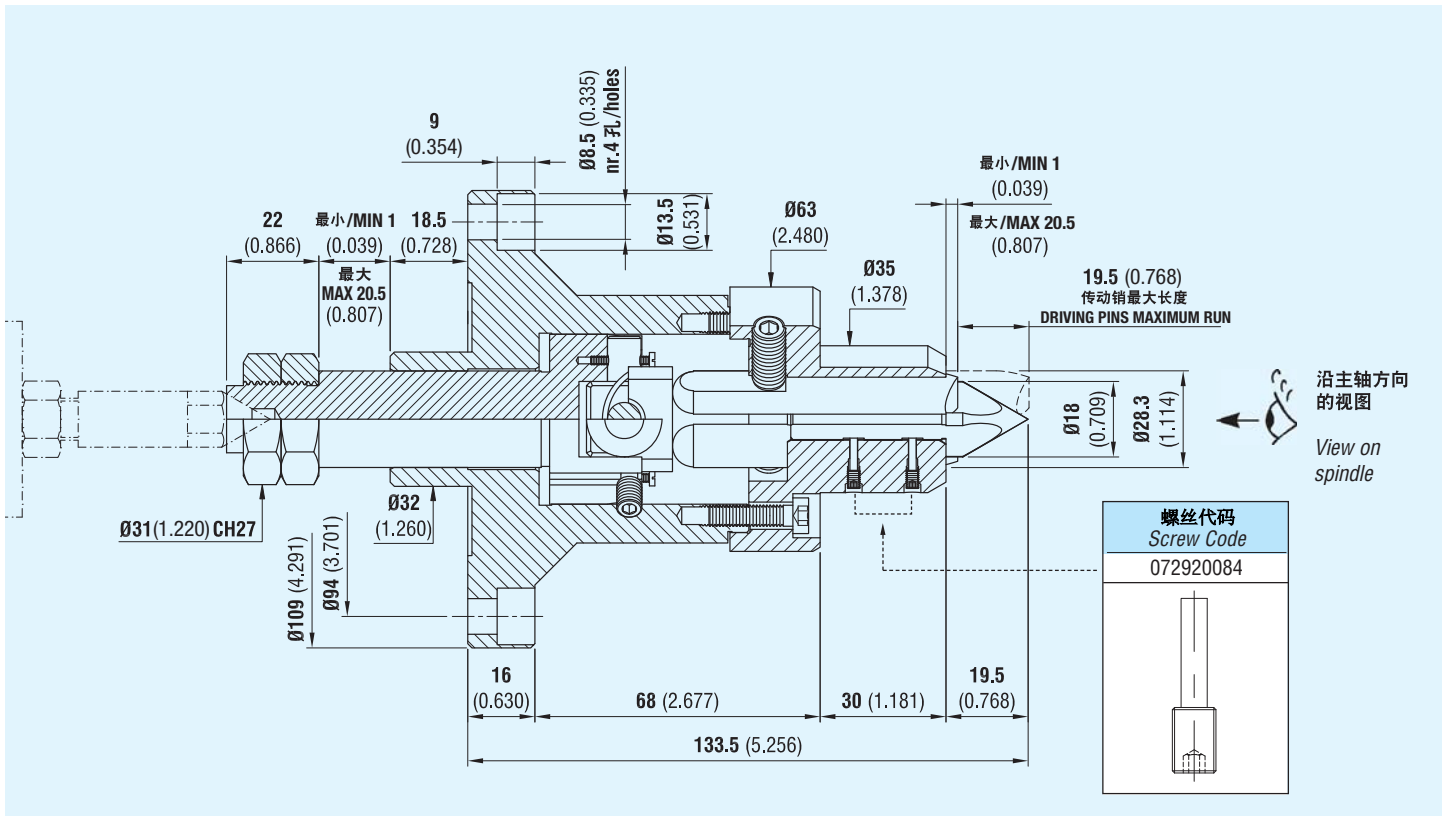
FACE DRIVER 12/50 FLANGED, WITH FIXED CENTER POINT AND DRIVING PINS OPERATED BY HYDRAULIC CYLINDER

特性:

含液压缸控制的可互换固定顶尖端的端面驱动顶尖适合加工直径在 12mm (0.472 英寸) 和 50mm (1.969 英寸) 之间的轴，也可在车削中用于加工最大同心度误差为 0.020 的轴。

FEATURES:

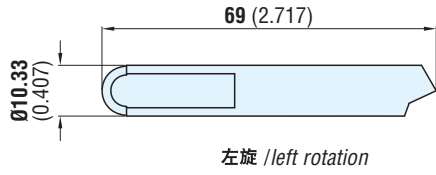
This face driver with interchangeable fixed centre point hydraulically operated, is suitable for machining shafts of between 12 (inch 0.472) and 50 (inch 1.969) millimetres in diameter and it has been manufactured to obtain in turning too, machining of shafts with error of concentricity max 0.020.



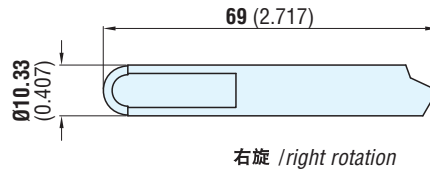
右旋代码 Code right rotation	左旋代码 Code left rotation
070760040	070760041

备件

12/50 传动销



左旋 /left rotation



右旋 /right rotation

SPARE PARTS

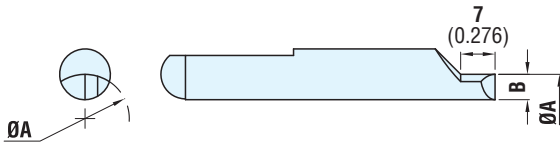
Driving pins for 12/50

左旋代码 Code left rotation	右旋代码 Code right rotation
080809002	080809003

12/50 低位传动销

Lowered driving pins for 12/50

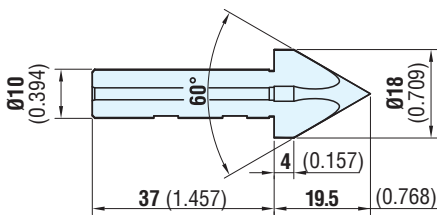
注：关于这些尺寸，请联系我们的技术部门
 WARNING: contact our technical department for these dimensions



左旋代码 Code left rotation	A	B	右旋代码 Code right rotation	A	B
090909012	12 (0.472)	2.1 (0.083)	090909112	12 (0.472)	2.1 (0.083)
090909013	13 (0.512)	2.6 (0.102)	090909113	13 (0.512)	2.6 (0.102)
090909014	14 (0.551)	3.1 (0.122)	090909114	14 (0.551)	3.1 (0.122)
090909015	15 (0.591)	3.6 (0.142)	090909115	15 (0.591)	3.6 (0.142)
090909016	16 (0.630)	4.1 (0.161)	090909116	16 (0.630)	4.1 (0.161)
090909017	17 (0.669)	4.6 (0.181)	090909117	17 (0.669)	4.6 (0.181)
090909018	18 (0.709)	5.1 (0.201)	090909118	18 (0.709)	5.1 (0.201)
090909019	19 (0.748)	5.6 (0.220)	090909119	19 (0.748)	5.6 (0.220)
090909020	20 (0.787)	6.1 (0.240)	090909120	20 (0.787)	6.1 (0.240)
090909021	21 (0.827)	6.6 (0.260)	090909121	21 (0.827)	6.6 (0.260)
090909022	22 (0.866)	7.1 (0.280)	090909122	22 (0.866)	7.1 (0.280)
090909023	23 (0.906)	7.6 (0.299)	090909123	23 (0.906)	7.6 (0.299)
090909024	24 (0.945)	8.1 (0.319)	090909124	24 (0.945)	8.1 (0.319)
090909025	25 (0.984)	8.6 (0.339)	090909125	25 (0.984)	8.6 (0.339)

12/50 固定顶尖端

Fixed center point for 12/50



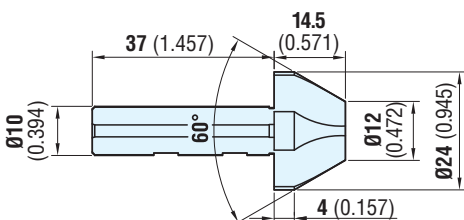
代码 Code
072102768

含插槽的 12/50 固定顶尖端

(适于大型顶尖或孔)

Fixed center point with slots for 12/50

(for large centers or holes)



含插槽的 顶尖端代码 Code centre points with slots	适于顶尖或“F”孔 For centers or “F” holes	
	(最小)/from Ø	(最大)/to Ø
179200101	15 (0.591)	22 (0.866)

含液压缸控制的固定顶尖和传动销的 法兰式端面驱动顶尖 15/55



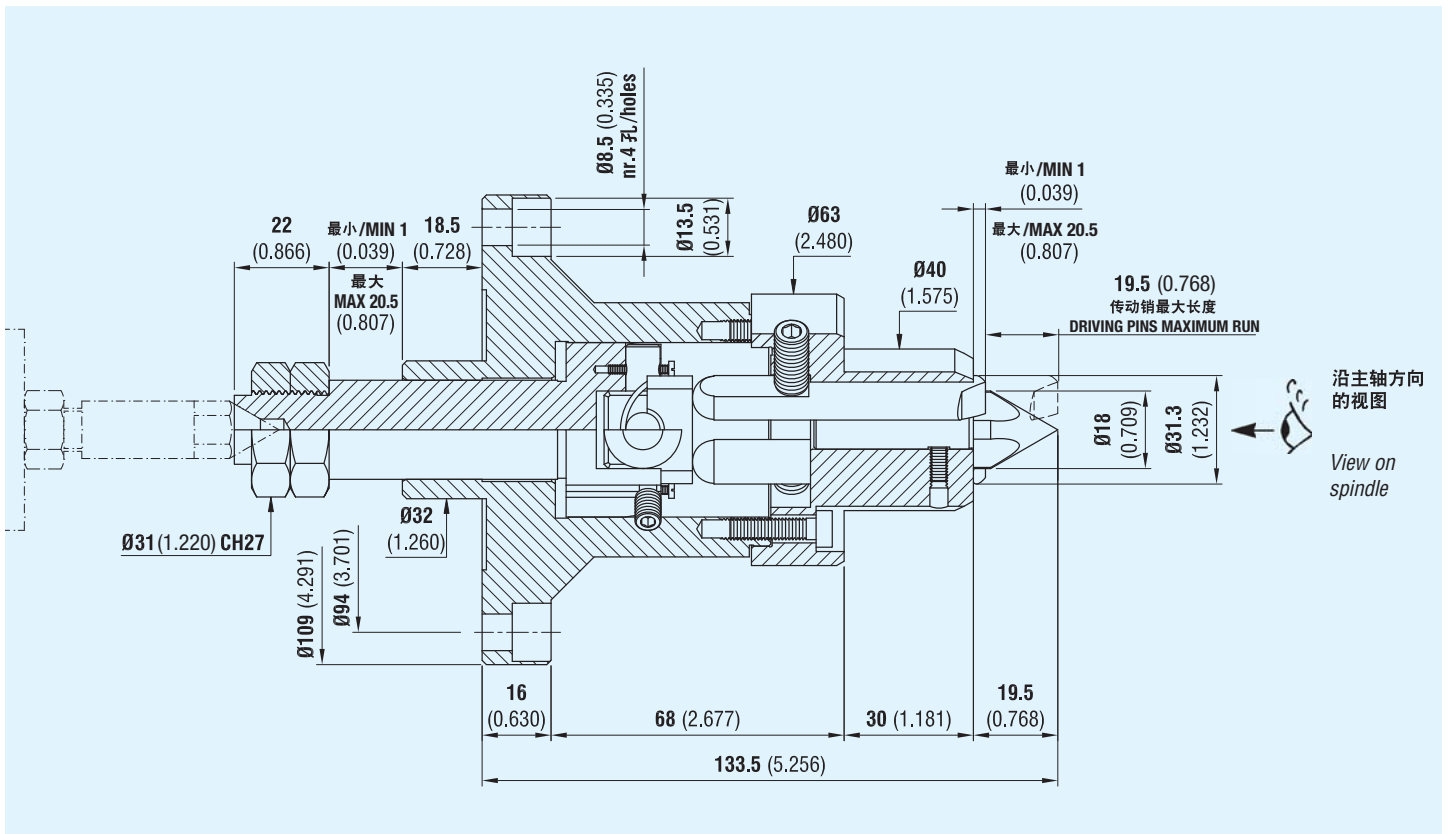
FACE DRIVER 15/55 FLANGED, WITH FIXED CENTER POINT AND DRIVING PINS OPERATED BY HYDRAULIC CYLINDER

特性:

含液压缸控制的可互换固定顶尖的端面驱动顶尖适合加工直径在 15mm (0.591 英寸) 和 55mm (2.165 英寸) 之间的轴，也可在车削中用于加工最大同心度误差为 0.020 的轴。

FEATURES:

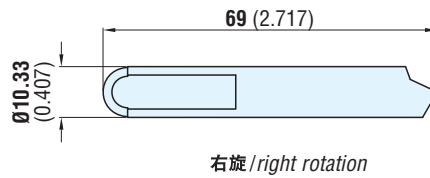
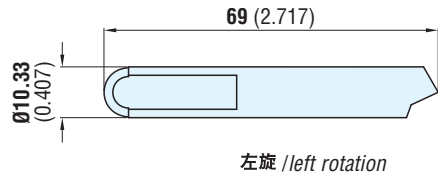
This face driver with interchangeable fixed centre point hydraulically operated, is suitable for machining shafts of between 15 (inch 0.591) and 55 (inch 2.165) mm, in diameter and it has been manufactured to obtain in turning too, machining of shafts with error of concentricity max 0.020.



右旋代码 Code right rotation	左旋代码 Code left rotation
070752410	070752411

备件

15/55 传动销



SPARE PARTS

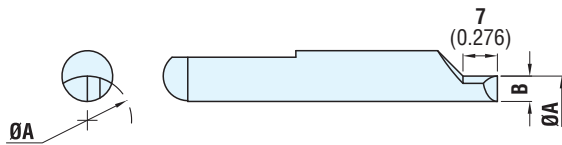
Driving pins for 15/55

左旋代码 Code left rotation	右旋代码 Code right rotation
080809002	080809003

15/55 低位传动销

Lowered driving pins for 15/55

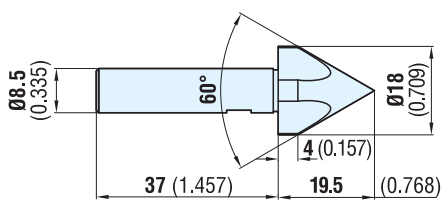
注：关于这些尺寸，请联系我们的技术部门
WARNING: contact our technical department for these dimensions



左旋代码 Code left rotation	Ø A	B	右旋代码 Code right rotation	Ø A	B
090909012	15 (0.591)	2.1 (0.083)	090909112	15 (0.591)	2.1 (0.083)
090909013	16 (0.630)	2.6 (0.102)	090909113	16 (0.630)	2.6 (0.102)
090909014	17 (0.669)	3.1 (0.122)	090909114	17 (0.669)	3.1 (0.122)
090909015	18 (0.709)	3.6 (0.142)	090909115	18 (0.709)	3.6 (0.142)
090909016	19 (0.748)	4.1 (0.161)	090909116	19 (0.748)	4.1 (0.161)
090909017	20 (0.787)	4.6 (0.181)	090909117	20 (0.787)	4.6 (0.181)
090909018	21 (0.827)	5.1 (0.201)	090909118	21 (0.827)	5.1 (0.201)
090909019	22 (0.866)	5.6 (0.220)	090909119	22 (0.866)	5.6 (0.220)
090909020	23 (0.906)	6.1 (0.240)	090909120	23 (0.906)	6.1 (0.240)
090909021	24 (0.945)	6.6 (0.260)	090909121	24 (0.945)	6.6 (0.260)
090909022	25 (0.984)	7.1 (0.280)	090909122	25 (0.984)	7.1 (0.280)
090909023	26 (1.024)	7.6 (0.299)	090909123	26 (1.024)	7.6 (0.299)
090909024	27 (1.063)	8.1 (0.319)	090909124	27 (1.063)	8.1 (0.319)
090909025	28 (1.102)	8.6 (0.339)	090909125	28 (1.102)	8.6 (0.339)

15/55 固定顶尖端

Fixed center point for 15/55



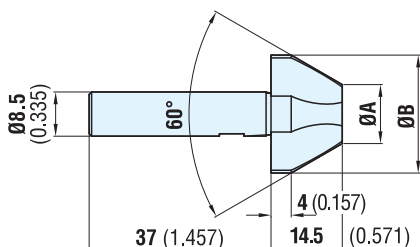
代码 Code
072102769

含插槽的 15/55 顶尖端

(适于大型顶尖或孔)

Fixed center point with slots for 15/55

(for large centers or holes)



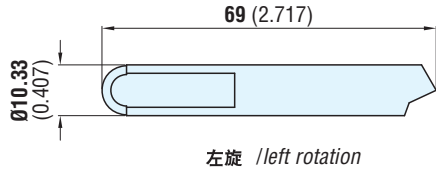
含插槽的 顶尖端代码 Code centre points with slots	含插槽的顶尖端尺寸 Dimensions points with slots		适于顶尖或“F”孔 For centers or “F” holes	
	Ø A	Ø B	(最小)/from Ø	(最大)/to Ø
171711018	12 (0.472)	24 (0.945)	15 (0.591)	23 (0.906)
171711021	18 (0.709)	30 (1.181)	21 (0.827)	26 (1.024)

备件

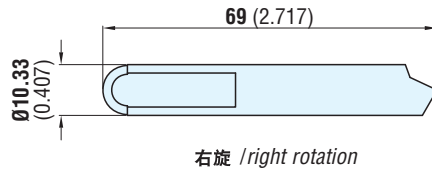
20/60 传动销

SPARE PARTS

Driving pins for 20/60



左旋 /left rotation



右旋 /right rotation

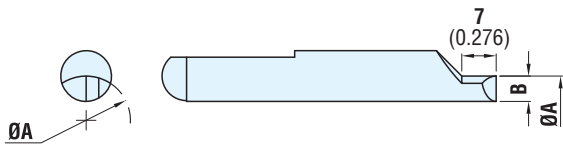
左旋代码 Code left rotation	右旋代码 Code right rotation
080809002	080809003

20/60 低位传动销

Lowered driving pins for 20/60

注：关于这些尺寸，请联系我们的技术部门

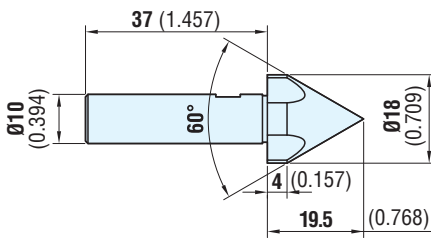
WARNING: contact our technical department for these dimensions



左旋代码 Code left rotation	Ø A	B	右旋代码 Code right rotation	Ø A	B
090909012	19 (0.748)	2.1 (0.083)	090909112	19 (0.748)	2.1 (0.083)
090909013	20 (0.787)	2.6 (0.102)	090909113	20 (0.787)	2.6 (0.102)
090909014	21 (0.827)	3.1 (0.122)	090909114	21 (0.827)	3.1 (0.122)
090909015	22 (0.866)	3.6 (0.142)	090909115	22 (0.866)	3.6 (0.142)
090909016	23 (0.906)	4.1 (0.161)	090909116	23 (0.906)	4.1 (0.161)
090909017	24 (0.945)	4.6 (0.181)	090909117	24 (0.945)	4.6 (0.181)
090909018	25 (0.984)	5.1 (0.201)	090909118	25 (0.984)	5.1 (0.201)
090909019	26 (1.024)	5.6 (0.220)	090909119	26 (1.024)	5.6 (0.220)
090909020	27 (1.063)	6.1 (0.240)	090909120	27 (1.063)	6.1 (0.240)
090909021	28 (1.102)	6.6 (0.260)	090909121	28 (1.102)	6.6 (0.260)
090909022	29 (1.142)	7.1 (0.280)	090909122	29 (1.142)	7.1 (0.280)
090909023	30 (1.181)	7.6 (0.299)	090909123	30 (1.181)	7.6 (0.299)
090909024	31 (1.220)	8.1 (0.319)	090909124	31 (1.220)	8.1 (0.319)
090909025	32 (1.260)	8.6 (0.339)	090909125	32 (1.260)	8.6 (0.339)

20/60 固定顶尖端

Fixed center point for 20/60



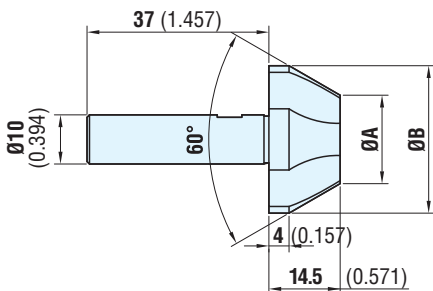
代码 Code
072102770

含插槽的 20/60 固定顶尖端

(适于大型顶尖或孔)

Fixed center point with slots for 20/60

(for large centers or holes)



含插槽的 顶尖端代码 Code centre points with slots	含插槽的顶尖端尺寸 Dimensions points with slots		适于顶尖或“F”孔 For centers or “F” holes	
	Ø A	Ø B	《最小》/from Ø	《最大》/ to Ø
171712021	12 (0.472)	24 (0.945)	15 (0.591)	23 (0.906)
171712023	15 (0.591)	27 (1.063)	18 (0.709)	26 (1.024)
171712025	18 (0.709)	30 (1.181)	21 (0.827)	29 (1.142)
171712028	24 (0.945)	36 (1.417)	26 (1.024)	31 (1.220)

含液压缸控制的固定顶尖和传动销的 法兰式端面驱动顶尖 20/70



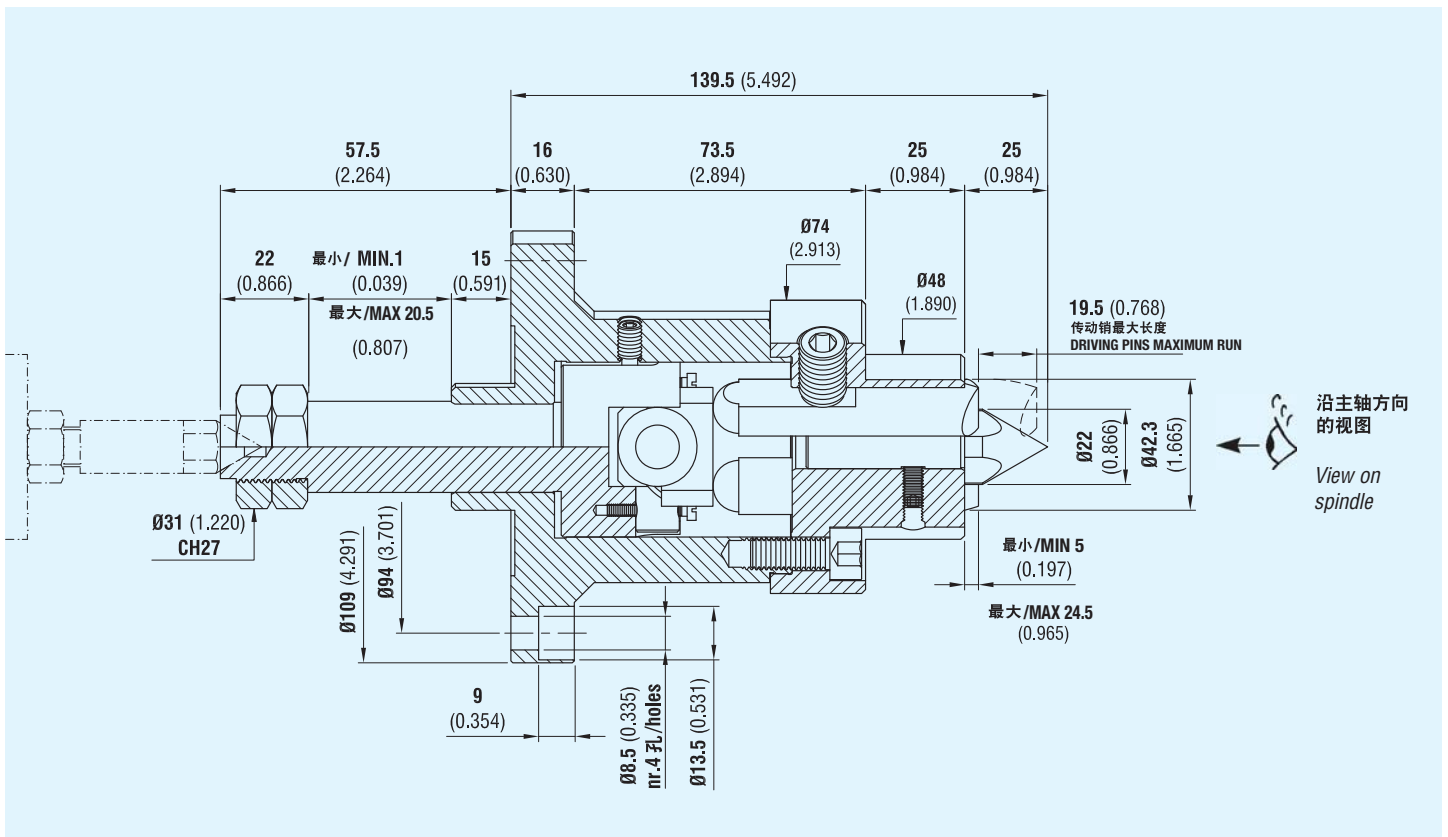
FACE DRIVER 20/70 FLANGED, WITH FIXED CENTER POINT AND DRIVING PINS OPERATED BY HYDRAULIC CYLINDER

特性:

含液压缸控制的可互换固定顶尖端的端面驱动顶尖适合加工直径在 20mm (0.787 英寸) 和 70mm (2.756 英寸) 之间的轴，也可在车削中用于加工最大同心度误差为 0.020 的轴。

FEATURES:

This face driver with interchangeable fixed centre point hydraulically operated, is suitable for machining shafts of between 20 (inch 0.787) and 70 (inch 2.756) millimetres in diameter and it has been manufactured to obtain in turning too, machining of shafts with error of concentricity max 0.020.



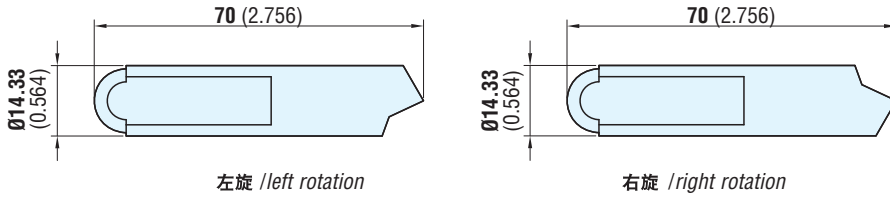
右旋代码 Code right rotation	左旋代码 Code left rotation
070760042	070760043

备件

20/70 传动销

SPARE PARTS

Driving pins for 20/70



左旋代码 Code left rotation	右旋代码 Code right rotation
080809004	080809005

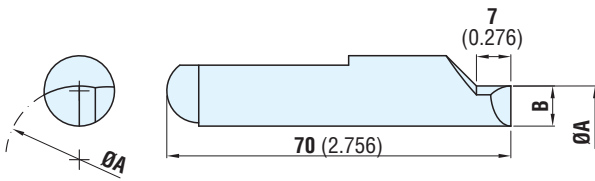
20/70 低位传动销

Lowered driving pins for 20/70

注：关于这些尺寸，请联系我们的技术部门

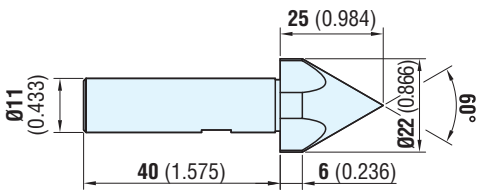
WARNING: contact our technical department for these dimensions

左旋代码 Code left rotation	Ø A	B	右旋代码 Code right rotation	Ø A	B
090909219	19 (0.748)	2.7 (0.106)	090909319	19 (0.748)	2.7 (0.106)
090909220	20 (0.787)	3.2 (0.126)	090909320	20 (0.787)	3.2 (0.126)
090909221	21 (0.827)	3.7 (0.146)	090909321	21 (0.827)	3.7 (0.146)
090909222	22 (0.866)	4.2 (0.165)	090909322	22 (0.866)	4.2 (0.165)
090909223	23 (0.906)	4.7 (0.185)	090909323	23 (0.906)	4.7 (0.185)
090909224	24 (0.945)	5.2 (0.205)	090909324	24 (0.945)	5.2 (0.205)
090909225	25 (0.984)	5.7 (0.224)	090909325	25 (0.984)	5.7 (0.224)
090909226	26 (1.024)	6.2 (0.244)	090909326	26 (1.024)	6.2 (0.244)
090909227	27 (1.063)	6.7 (0.264)	090909327	27 (1.063)	6.7 (0.264)
090909228	28 (1.102)	7.2 (0.283)	090909328	28 (1.102)	7.2 (0.283)
090909229	29 (1.142)	7.7 (0.303)	090909329	29 (1.142)	7.7 (0.303)
090909230	30 (1.181)	8.2 (0.323)	090909330	30 (1.181)	8.2 (0.323)
090909231	31 (1.220)	8.7 (0.343)	090909331	31 (1.220)	8.7 (0.343)
090909232	32 (1.260)	9.2 (0.362)	090909332	32 (1.260)	9.2 (0.362)
090909233	33 (1.299)	9.7 (0.382)	090909333	33 (1.299)	9.7 (0.382)
090909234	34 (1.339)	10.2 (0.402)	090909334	34 (1.339)	10.2 (0.402)
090909235	35 (1.378)	10.7 (0.421)	090909335	35 (1.378)	10.7 (0.421)
090909236	36 (1.417)	11.2 (0.441)	090909336	36 (1.417)	11.2 (0.441)



20/70 固定顶尖端

Fixed center point for 20/70



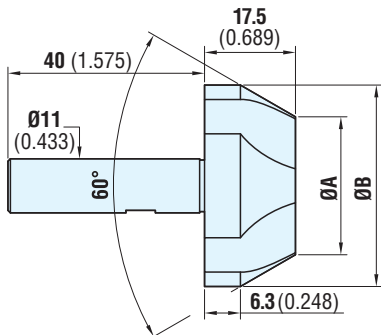
代码 Code
072102771

含插槽的 20/70 固定顶尖端

(适于大型顶尖或孔)

Fixed center point with slots for 20/70

(for large centers or holes)



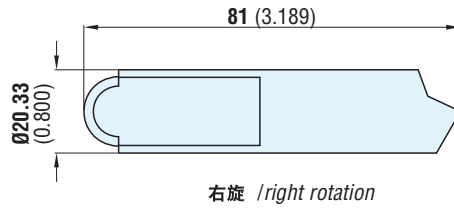
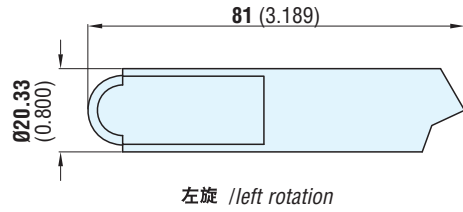
含插槽的 顶尖端代码 Code centre points with slots	含插槽的顶尖端尺寸 Dimensions points with slots		适于顶尖或“F”孔 For centers or “F” holes	
	Ø A	Ø B	(最小)/from Ø	(最大)/to Ø
179200114	17 (0.669)	30 (1.181)	19 (0.748)	29 (1.142)
179200116	23 (0.906)	36 (1.417)	25 (0.984)	35 (1.378)

备件

45/120 传动销

SPARE PARTS

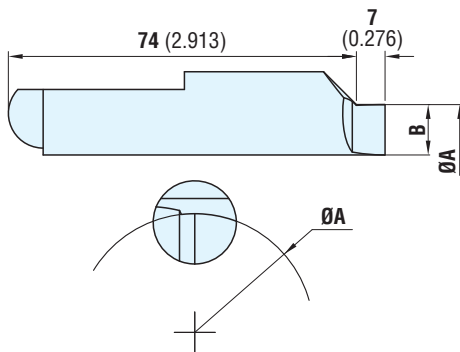
Driving pins for 45/120



左旋代码 Code left rotation	右旋代码 Code right rotation
080845017	080845016

45/120 低位传动销

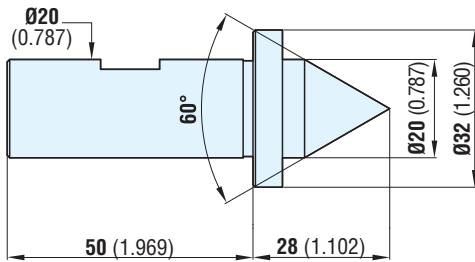
Lowered driving pins for 45/120



左旋代码 Code left rotation	Ø A	B	右旋代码 Code right rotation	Ø A	B
090945444	44 (1.732)	4.8 (0.189)	090945544	44 (1.732)	4.8 (0.189)
090945445	45 (1.772)	5.3 (0.209)	090945545	45 (1.772)	5.3 (0.209)
090945446	46 (1.811)	5.8 (0.228)	090945546	46 (1.811)	5.8 (0.228)
090945447	47 (1.850)	6.3 (0.248)	090945547	47 (1.850)	6.3 (0.248)
090945448	48 (1.890)	6.8 (0.268)	090945548	48 (1.890)	6.8 (0.268)
090945449	49 (1.929)	7.3 (0.287)	090945549	49 (1.929)	7.3 (0.287)
090945450	50 (1.969)	7.8 (0.307)	090945550	50 (1.969)	7.8 (0.307)
090945451	51 (2.008)	8.3 (0.327)	090945551	51 (2.008)	8.3 (0.327)
090945452	52 (2.047)	8.8 (0.346)	090945552	52 (2.047)	8.8 (0.346)
090945453	53 (2.087)	9.3 (0.366)	090945553	53 (2.087)	9.3 (0.366)
090945454	54 (2.126)	9.8 (0.386)	090945554	54 (2.126)	9.8 (0.386)
090945455	55 (2.165)	10.3 (0.406)	090945555	55 (2.165)	10.3 (0.406)
090945456	56 (2.205)	10.8 (0.425)	090945556	56 (2.205)	10.8 (0.425)
090945457	57 (2.244)	11.3 (0.445)	090945557	57 (2.244)	11.3 (0.445)
090945458	58 (2.283)	11.8 (0.465)	090945558	58 (2.283)	11.8 (0.465)
090945459	59 (2.323)	12.3 (0.484)	090945559	59 (2.323)	12.3 (0.484)
090945460	60 (2.362)	12.8 (0.504)	090945560	60 (2.362)	12.8 (0.504)
090945461	61 (2.402)	13.3 (0.524)	090945561	61 (2.402)	13.3 (0.524)
090945462	62 (2.441)	13.8 (0.543)	090945562	62 (2.441)	13.8 (0.543)
090945463	63 (2.480)	14.3 (0.563)	090945563	63 (2.480)	14.3 (0.563)
090945464	64 (2.520)	14.8 (0.583)	090945564	64 (2.520)	14.8 (0.583)
090945465	65 (2.559)	15.3 (0.602)	090945565	65 (2.559)	15.3 (0.602)

45/120 固定顶尖端

Fixed center point for 45/120



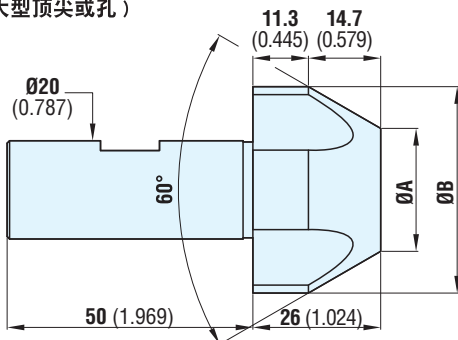
代码 Code
072920104

含插槽的 45/120 固定顶尖端

Fixed center points with slots for 45/120

(适于大型顶尖或孔)

(for large centers or holes)



含插槽的 顶尖端代码 Code centre points with slots	含插槽的顶尖端尺寸 Dimensions points with slots		适于顶尖或“F”孔 For centers or “F” holes	
	Ø A	Ø B	(最小)/from Ø	(最大)/to Ø
171713031	15 (0.591)	32 (1.260)	18 (0.709)	31 (1.220)
171713032	25 (0.984)	42 (1.654)	28 (1.102)	41 (1.614)
171713033	35 (1.378)	52 (2.047)	38 (1.496)	51 (2.008)
171713034	45 (1.772)	62 (2.441)	48 (1.890)	61 (2.402)
171713035	55 (2.165)	72 (2.835)	58 (2.283)	71 (2.795)

含液压缸控制的固定顶尖和传动销的 法兰式端面驱动顶尖 100/220



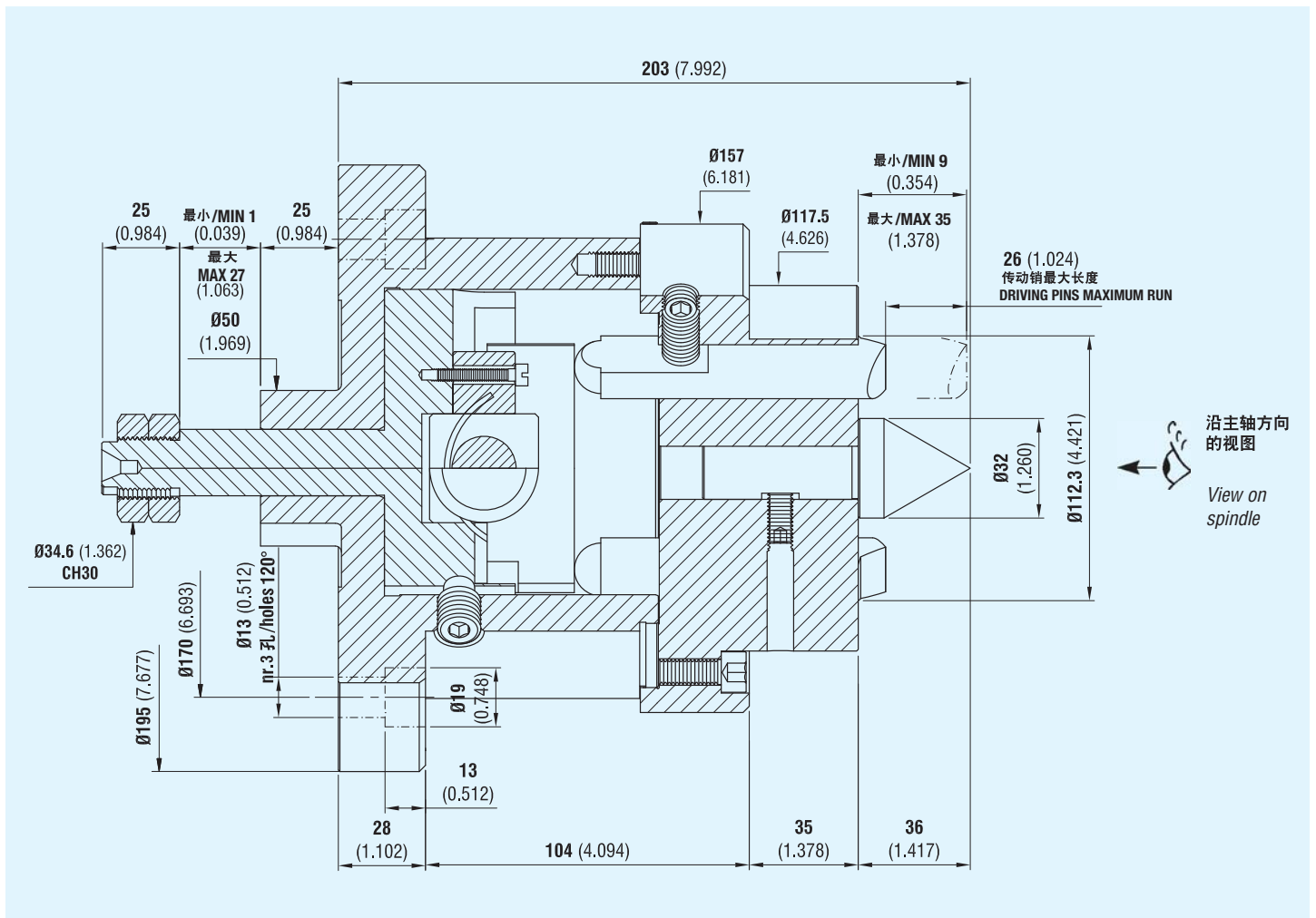
FACE DRIVER 100/220 FLANGED, WITH FIXED CENTER POINT AND DRIVING PINS OPERATED BY HYDRAULIC CYLINDER

特性:

含液压缸控制的可互换固定顶尖的端面驱动顶尖适合加工直径在 100mm (3.937 英寸) 和 220mm (8.661 英寸) 之间的轴，也可在车削中用于加工最大同心度误差为 0.020 的轴。

FEATURES:

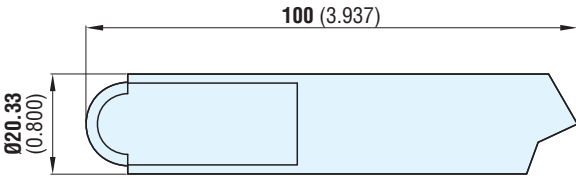
This face driver with interchangeable fixed centre point hydraulically operated, is suitable for machining shafts of between 100 (inch 3.937) and 220 (inch 8.661) millimetres in diameter and it has been manufactured to obtain in turning too, machining of shafts with error of concentricity max 0.020.



右旋代码 Code right rotation	左旋代码 Code left rotation
070760046	070760047

备件

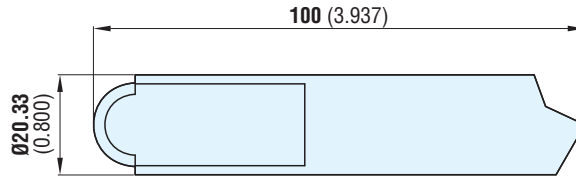
100/220 传动销



左旋 /left rotation

SPARE PARTS

Driving pins for 100/220



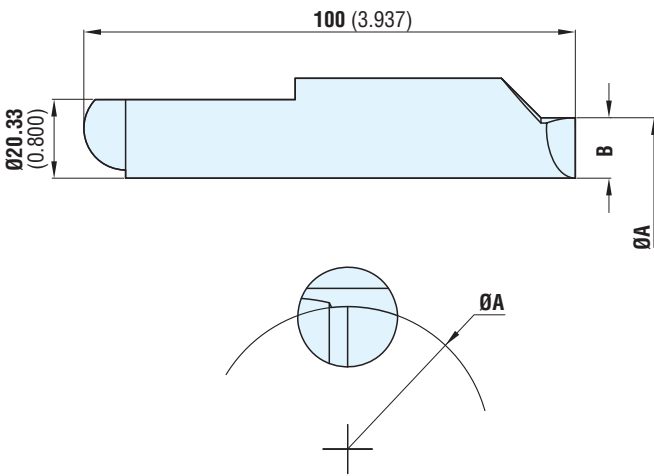
右旋 /right rotation

左旋代码 Code left rotation
080810215

右旋代码 Code right rotation
080810214

100/220 低位传动销

Lowered driving pins for 100/220

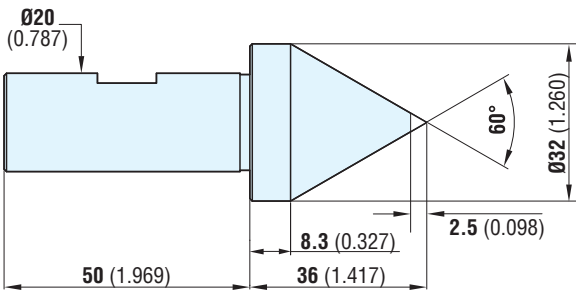


左旋代码 Code left rotation	Ø A	B
090909084	84 (3.307)	6.3 (0.248)
090909089	89 (3.504)	8.8 (0.346)
090909094	94 (3.701)	11.3 (0.445)
090909099	99 (3.898)	13.8 (0.543)

右旋代码 Code right rotation	Ø A	B
090909184	84 (3.307)	6.3 (0.248)
090909189	89 (3.504)	8.8 (0.346)
090909194	94 (3.701)	11.3 (0.445)
090909199	99 (3.898)	13.8 (0.543)

100/220 固定顶尖端

Fixed center point for 100/220



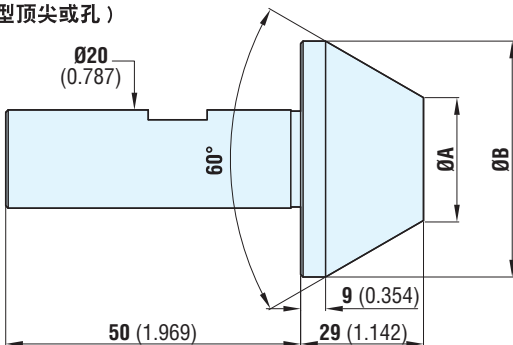
代码 Code
072102765

含插槽的 100/220 固定顶尖端

(适于大型顶尖或孔)

Fixed center points with slots for 100/220

(for large centers or holes)



含插槽的 顶尖端代码 Code centre points with slots	含插槽的顶尖端尺寸 Dimensions points with slots		适于顶尖或“F”孔 For centers or “F” holes	
	Ø A	Ø B	(最小)/from Ø	(最大)/to Ø
171714019	25 (0.984)	48 (1.890)	28 (1.102)	47 (1.850)
171714020	42 (1.654)	65 (2.559)	39 (1.535)	64 (2.520)
171714021	60 (2.362)	83 (3.268)	57 (2.244)	82 (3.228)
171714022	78 (3.071)	101 (3.976)	75 (2.953)	100 (3.937)

含液压缸控制的固定顶尖和传动销的 法兰式端面驱动顶尖 180/300



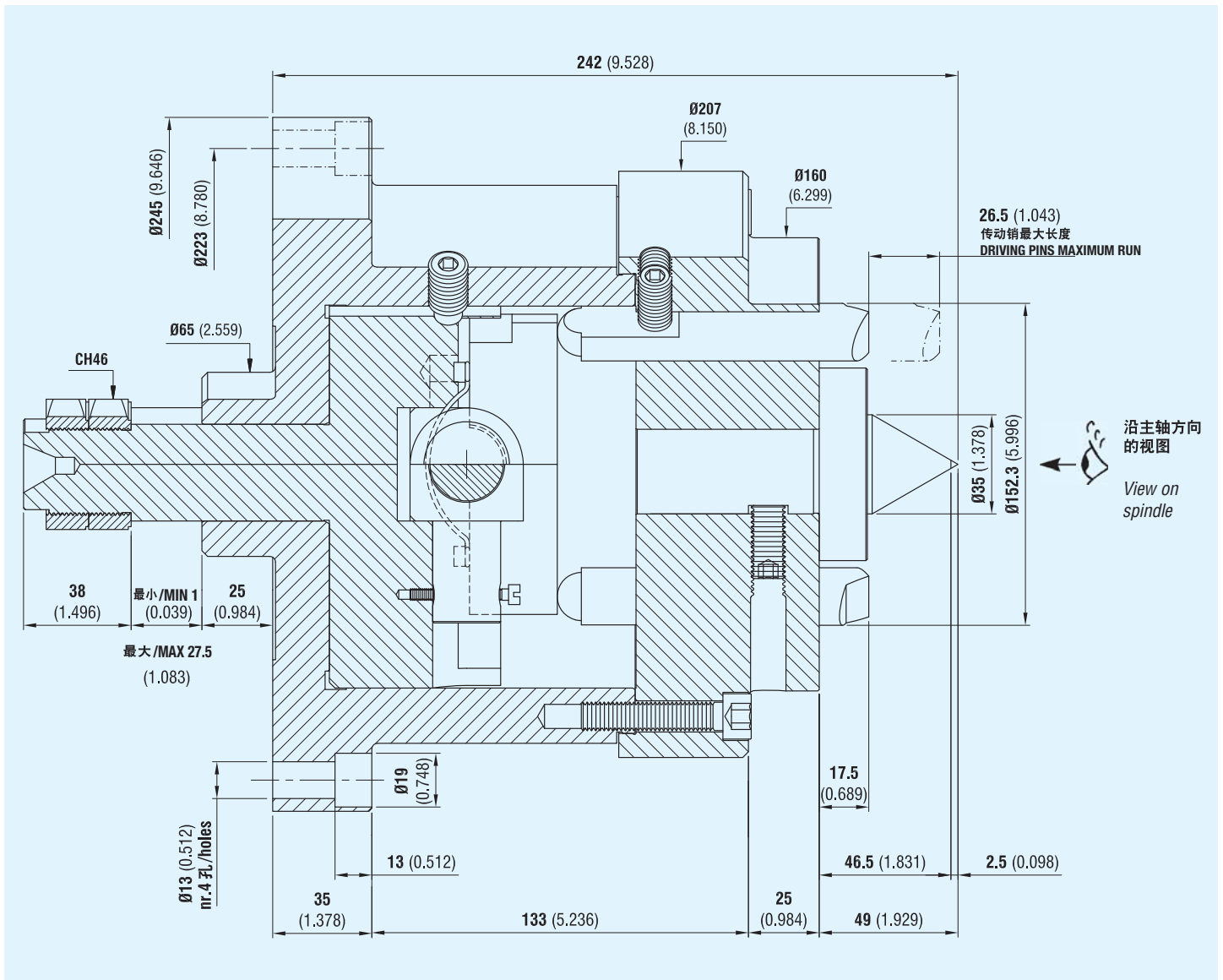
FACE DRIVER 180/300 FLANGED, WITH FIXED CENTER POINT AND DRIVING PINS OPERATED BY HYDRAULIC CYLINDER

特性:

含液压缸控制的可互换固定顶尖的端面驱动顶尖适合加工直径在 180mm (7.087 英寸) 和 300mm (11.811 英寸) 之间的轴，也可在车削中用于加工最大同心度误差为 0.020 的轴。

FEATURES:

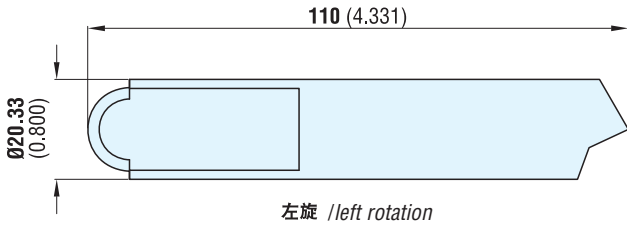
This face driver with interchangeable fixed centre point hydraulically operated, is suitable for machining shafts of between 180 (inch 7.087) and 300 (inch 11.811) millimetres in diameter and it has been manufactured to obtain in turning too, machining of shafts with error of concentricity max 0.020.



右旋代码 Code right rotation	左旋代码 Code left rotation
070760051	070760050

备件

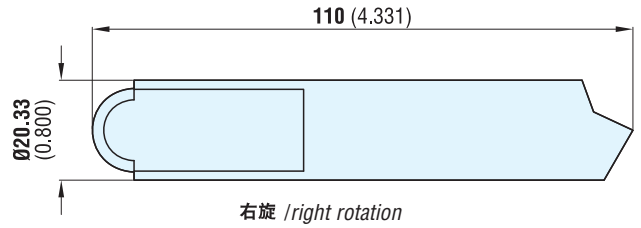
180/300 传动销



左旋 / left rotation

SPARE PARTS

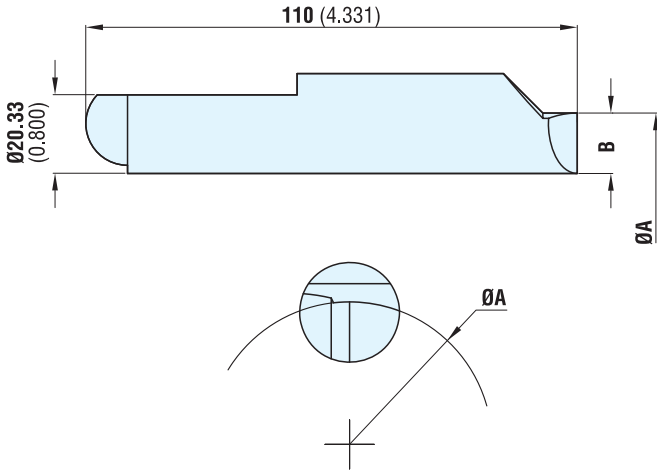
Driving pins for 180/300



右旋 / right rotation

左旋代码 Code left rotation	右旋代码 Code right rotation
080810212	080810213

180/300 低位传动销

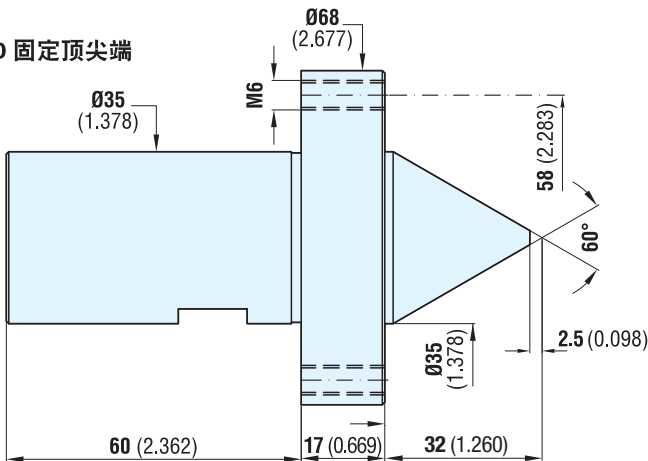


Lowered driving pins for 180/300

左旋代码 Code left rotation	Ø A	B
090900084	124 (4.882)	6.2 (0.244)
090900089	129 (5.079)	8.7 (0.343)
090900094	134 (5.276)	11.2 (0.441)
090900099	139 (5.472)	13.7 (0.539)

右旋代码 Code right rotation	Ø A	B
090901084	124 (4.882)	6.2 (0.244)
090901089	129 (5.079)	8.7 (0.343)
090901094	134 (5.276)	11.2 (0.441)
090901099	139 (5.472)	13.7 (0.539)

180/300 固定顶尖端

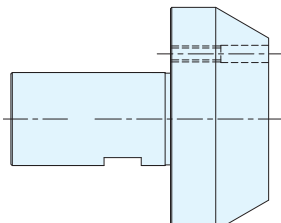


Fixed center point for 180/300

代码 Code
072102763

按要求提供 / Available on request

含插槽的 180/300 固定顶尖端
(适于大型顶尖或孔)



Fixed center point with slots for 180/300
(for large centers or holes)

FACE DRIVERS STANDARD FOR GEAR CUTTING MACHINES WITH FIXED DRIVING
TEETH, FOR GEAR CUTTING OF SHAFTS AND PIPES

技术特性:

含固定转动齿轮切削机端面驱动顶尖和独立回缩式顶尖端特别适于轴的齿轮切削，而且它们可用于加工每种顶尖齿轮。

其主体由防水，高韧度高硬度的钢（X210 Cr13 KU）制成。

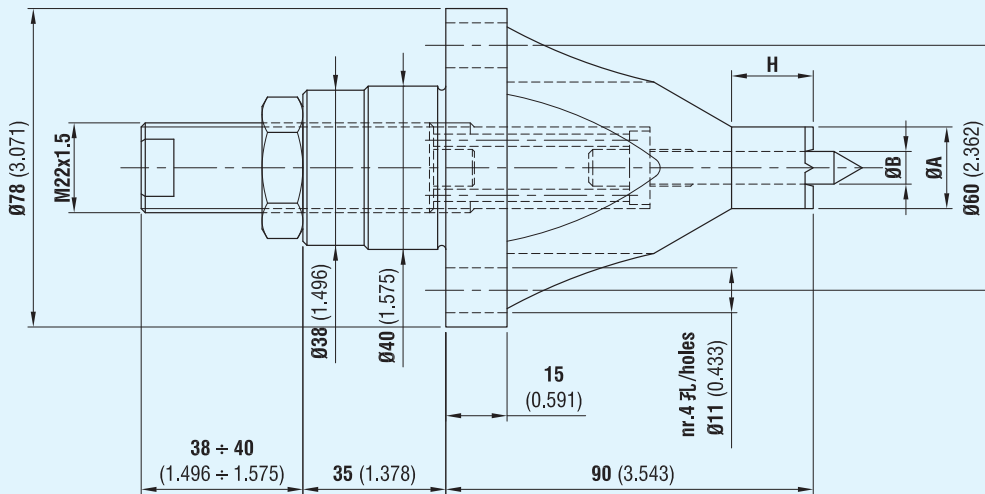
主题上的传动齿已被加工并随时可用于再磨削。顶尖端已经过淬火。

TECHNICAL FEATURES:

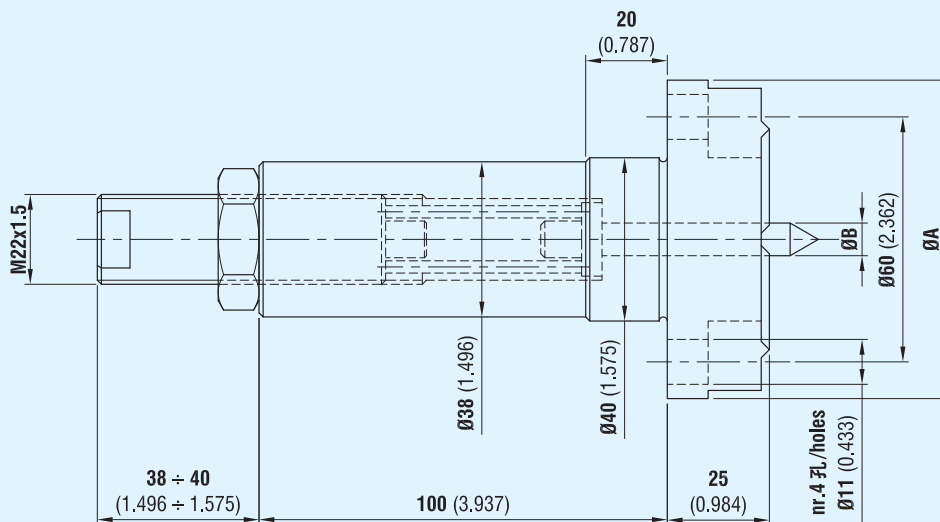
The face drivers for gear cutting machines with fixed driving teeth and independent and retractable center point, are especially suitable for gear cutting of shafts and they can be used to machine every kind of centered gears.

The main body is made of steel (X210 Cr13 KU) and has high toughness, waterproof and hardness degree.

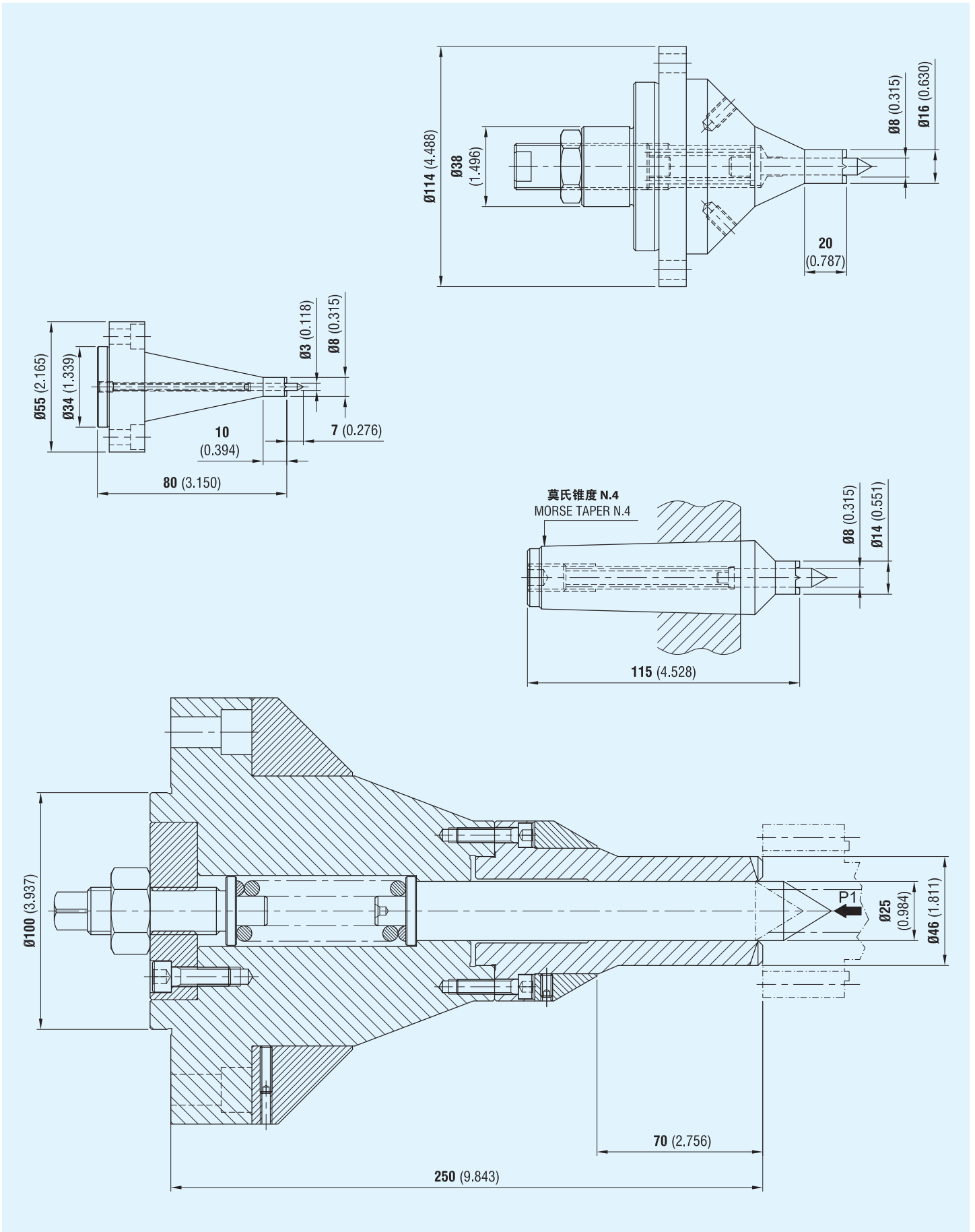
The teeth have been machined on the integral body and are always regrindable. The center point is hardened.



代码 Code	Ø A	Ø B	H
060600451	13 (0.512)	6 (0.236)	15 (0.591)
060600452	20 (0.787)	8 (0.315)	20 (0.787)
060600456	30 (1.181)	14 (0.551)	20 (0.787)
060600453	40 (1.575)	18 (0.709)	20 (0.787)



代码 Code	Ø A	Ø B
060600454	78 (3.071)	8 (0.315)
060600455	78 (3.071)	18 (0.709)



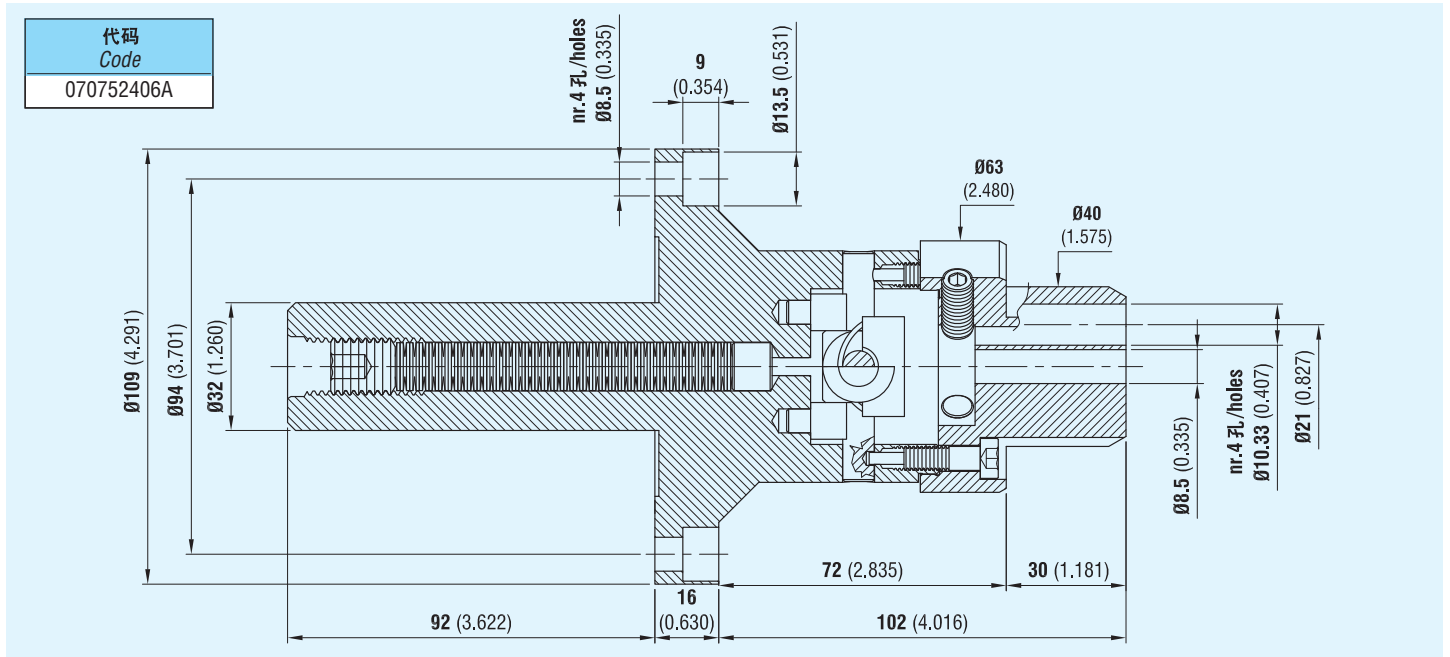


技术特性:

该端面驱动顶尖适于加工规格为 $\Phi 15$ (0.591 英寸) ~ $\Phi 70$ mm (2.756 英寸) 的零件。只能在活顶尖侧对规格为 $\Phi 15$ (0.591 英寸) ~ 31 mm (1.220 英寸) 的零件进行齿轮切削；也可在端面驱动顶尖侧对规格为 $\Phi 31$ (1.220 英寸) ~ $\Phi 70$ mm (2.756 英寸) 的零件进行齿轮切削。

TECHNICAL FEATURES:

This face driver is suitable for machining parts from $\Phi 15$ (inch 0.591) to $\Phi 70$ mm (inch 2.756). For parts from $\Phi 15$ (inch 0.591) to $\Phi 31$ (inch 1.220) mm gear cutting is possible on live center side only; for parts from $\Phi 31$ (inch 1.220) to $\Phi 70$ (inch 2.756) mm gear cutting is possible also on face driver side.

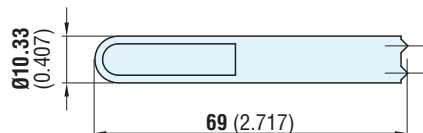


备件

15/55 双刀片传动销

SPARE PARTS

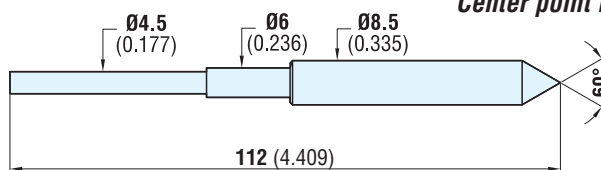
Driving pins with double blades for 15/55



代码 Code
080809006

15/55 顶尖端

Center point for 15/55



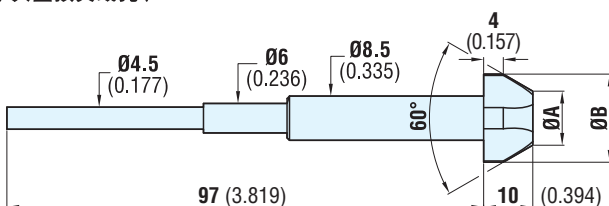
代码 Code
072102766

含插槽的 15/55 顶尖端

(适于大型顶尖或孔)

Center points with slots for 15/55

(for large centers or holes)



含插槽的 顶尖端代码 Code centre points with slots	含插槽的顶尖端尺寸 Dimensions points with slots		适于顶尖或“F”孔 For centers or “F” holes	
	Ø A	Ø B	(最小)/from Ø	(最大)/to Ø
171711015	5 (0.197)	12 (0.472)	7.5 (0.295)	10.5 (0.413)
171711016	8 (0.315)	15 (0.591)	10.5 (0.413)	13.5 (0.531)
171711017	11 (0.433)	18 (0.709)	13.5 (0.531)	16.5 (0.650)
171711019	14 (0.551)	21 (0.827)	16.5 (0.650)	19.5 (0.768)
171711020	17 (0.669)	24 (0.945)	19.5 (0.768)	22.5 (0.886)
171711022	20 (0.787)	27 (1.063)	22.5 (0.886)	25.5 (1.004)

有关操作说明，请参见第 41 页

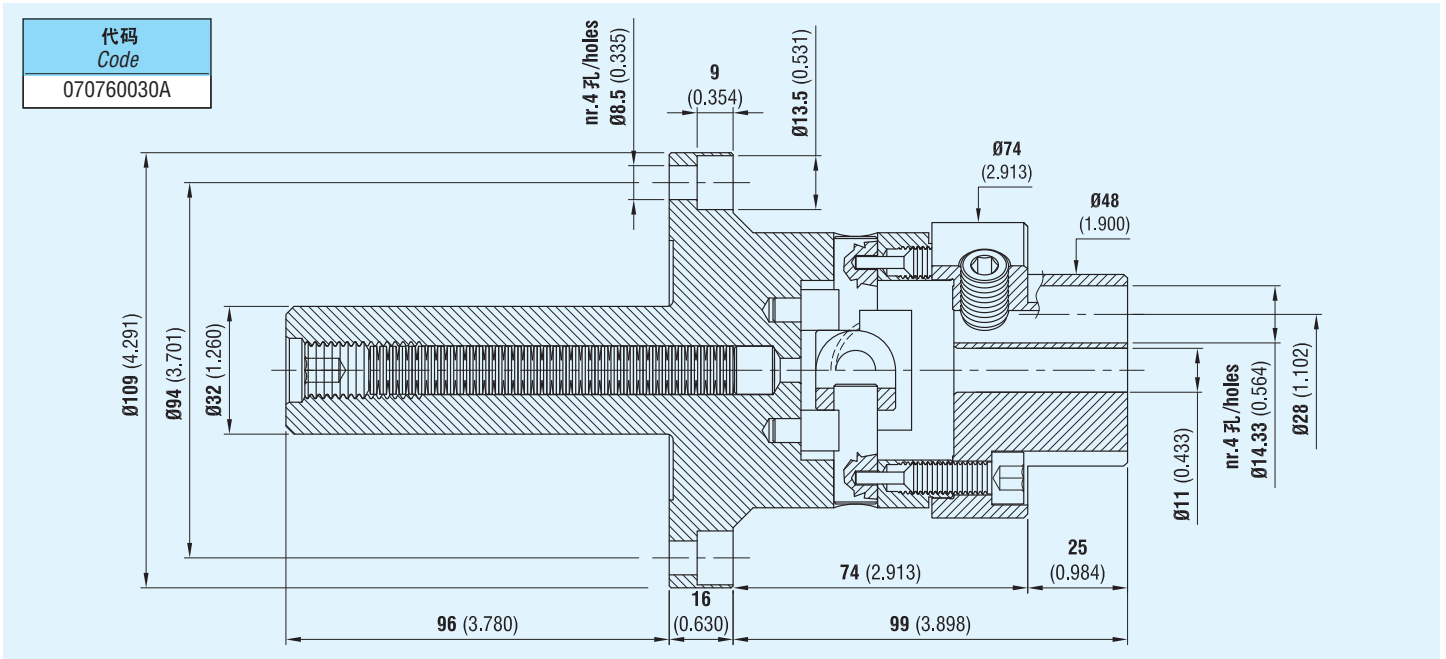
For operating instructions, see page. 41

技术特性:

该端面驱动顶尖适于加工规格为 $\Phi 20$ (0.787 英寸) ~ $\Phi 100$ mm (3.937 英寸) 的零件。只能在活顶尖侧对规格为 $\Phi 20$ (0.787 英寸) ~ $\Phi 42$ mm (1.654 英寸) 的零件进行齿轮切削；也可在端面驱动顶尖侧对规格为 $\Phi 42$ (1.654 英寸) ~ $\Phi 100$ mm (3.937 英寸) 的零件进行齿轮切削。

TECHNICAL FEATURES:

This face driver is suitable for machining parts from $\Phi 20$ (inch 0.787) to $\Phi 100$ mm (inch 3.937). For parts from $\Phi 20$ (inch 0.787) to $\Phi 42$ (inch 1.654) mm gear cutting is possible on live center side only; for parts from $\Phi 42$ (inch 1.654) to $\Phi 100$ (inch 3.937) mm gear cutting is possible also on face driver side.

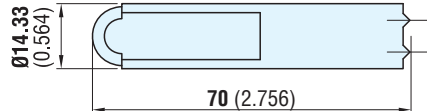


备件

20/70 双刀片传动销

SPARE PARTS

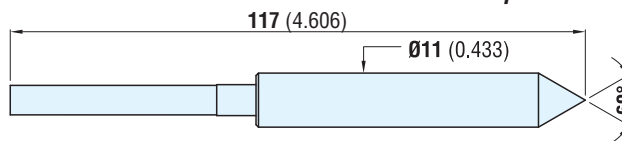
Driving pins with double blades for 20/70



代码 Code
080809007

20/70 顶尖端

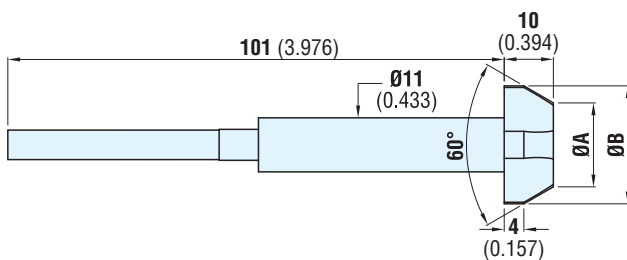
Center point for 20/70



代码 Code
072102756

含插槽的 20/70 顶尖端
(适于大型顶尖或孔)

Center points with slots for 20/70
(for large centers or holes)



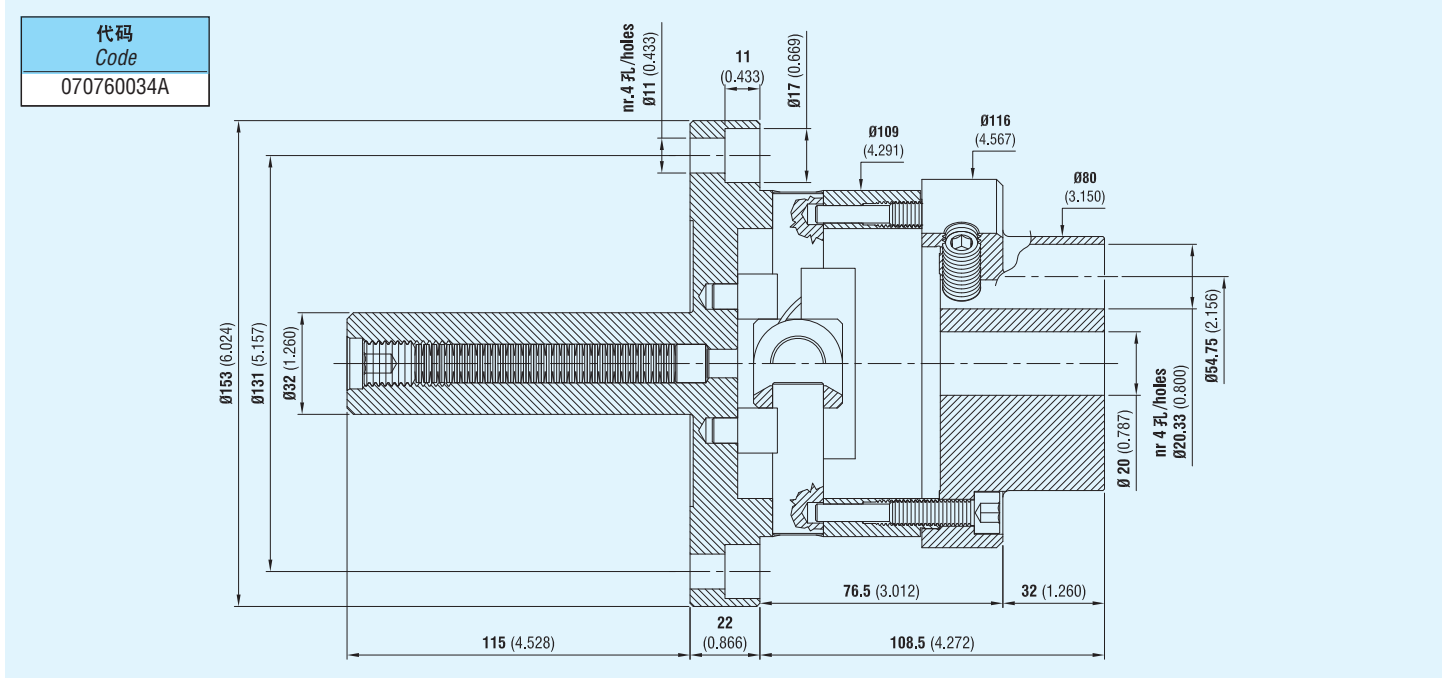
含插槽的 顶尖端代码 Code centre points with slots	含插槽的顶尖端尺寸 Dimensions points with slots		适于顶尖或“F”孔 For centers or “F” holes	
	ΦA	ΦB	(最小)/from Φ	(最大)/to Φ
171712010	8 (0.315)	15 (0.591)	10.5 (0.413)	13.5 (0.531)
171712011	11 (0.433)	18 (0.709)	13.5 (0.531)	16.5 (0.650)
171712012	14 (0.551)	21 (0.827)	16.5 (0.650)	19.5 (0.768)
171712013	17 (0.669)	24 (0.945)	19.5 (0.768)	22.5 (0.886)
171712014	20 (0.787)	27 (1.063)	22.5 (0.886)	25.5 (1.004)
171712015	23 (0.906)	30 (1.181)	25.5 (1.004)	28.5 (1.122)
171712016	26 (1.024)	33 (1.299)	28.5 (1.122)	31.5 (1.240)
171712017	29 (1.142)	36 (1.417)	31.5 (1.240)	34.5 (1.358)

技术特性:

该端面驱动顶尖适于加工规格为 $\Phi 45$ (1.772 英寸) ~ $\Phi 150$ mm (5.906 英寸) 的零件。只能在活顶尖侧对规格为 $\Phi 45$ (1.772 英寸) ~ $\Phi 75$ mm (2.953 英寸) 的零件进行齿轮切削；也可在端面驱动顶尖侧对规格为 $\Phi 75$ (2.953 英寸) ~ $\Phi 150$ mm (5.906 英寸) 的零件进行齿轮切削。

TECHNICAL FEATURES:

This face driver is suitable for machining parts from $\Phi 45$ (inch 1.772) to $\Phi 150$ mm (inch 5.906). For parts from $\Phi 45$ (inch 1.772) to $\Phi 75$ mm (inch 2.953) gear cutting is possible on live center side only; for parts from $\Phi 75$ (inch 2.953) to $\Phi 150$ mm (inch 5.906) gear cutting is possible also on face driver side.

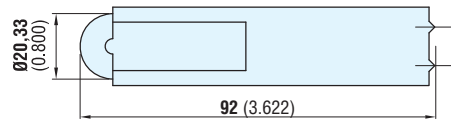


备件

45/150 双刀片传动销

SPARE PARTS

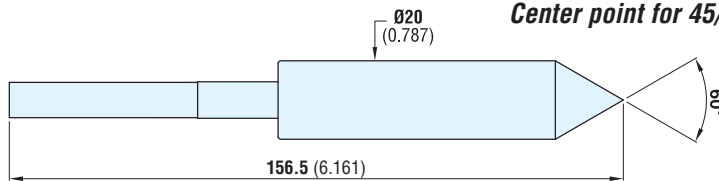
Driving pins with double blades for 45/150



代码 Code
080809008

45/150 顶尖端

Center point for 45/150



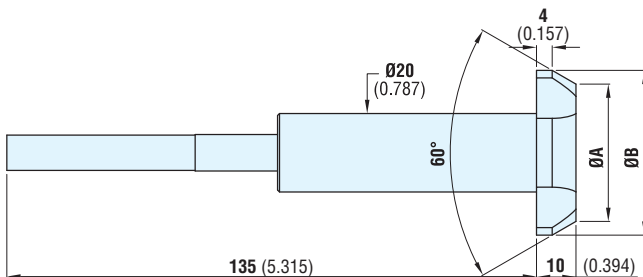
代码 Code
072102758

含插槽的 45/150 顶尖端

(适于大型顶尖或孔)

Center points with slots for 45/150

(for large centers or holes)



含插槽的 顶尖端代码 Code centre points with slots	含插槽的顶尖端尺寸 Dimensions points with slots		适于顶尖或“F”孔 For centers or “F” holes	
	ΦA	ΦB	(最小)/from Φ	(最大)/to Φ
171713020	14 (0.551)	21 (0.827)	16.5 (0.650)	19.5 (0.768)
171713021	17 (0.669)	24 (0.945)	19.5 (0.768)	22.5 (0.886)
171713022	20 (0.787)	27 (1.063)	22.5 (0.886)	25.5 (1.004)
171713023	23 (0.906)	30 (1.181)	25.5 (1.004)	28.5 (1.122)
171713024	26 (1.024)	33 (1.299)	28.5 (1.122)	31.5 (1.240)
171713025	29 (1.142)	36 (1.417)	31.5 (1.240)	34.5 (1.358)
171713026	32 (1.260)	39 (1.535)	34.5 (1.358)	37.5 (1.476)
171713027	35 (1.378)	42 (1.654)	37.5 (1.476)	40.5 (1.594)
171713028	38 (1.496)	45 (1.772)	40.5 (1.594)	43.5 (1.713)
171713029	41 (1.614)	48 (1.890)	43.5 (1.713)	46.5 (1.831)
171713030	44 (1.732)	51 (2.008)	46.5 (1.831)	49.5 (1.949)

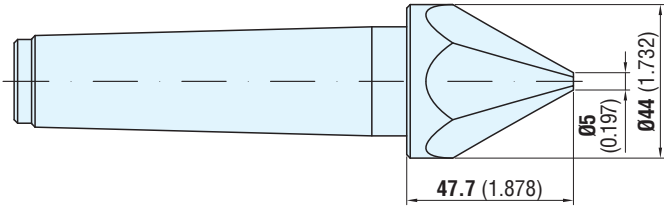
有关操作说明，请参见第 41 页

For operating instructions, see page. 41

DRIVERS FOR PIPES

含莫氏锥度配件的孔直径为 7 (0.276 英寸) ~ 40 (1.575 英寸) 的管道驱动顶尖

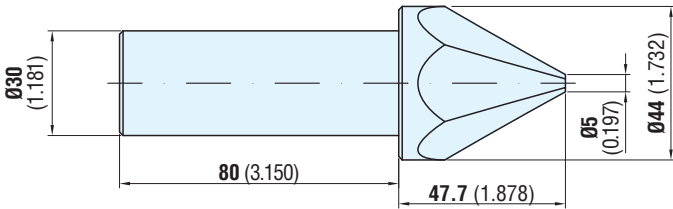
Driver for pipes with 7 (inch 0.276) to 40 (inch 1.575) diameter holes with morse taper fitting



代码 Code	锥度 Taper	端面数 Nr. Faces
050528002	CM2	6
050528103	CM3	6
050528204	CM4	6
050528305	CM5	6

含圆柱柄的孔直径为 7 (0.276 英寸) ~ 40 (1.575 英寸) 的管道驱动顶尖

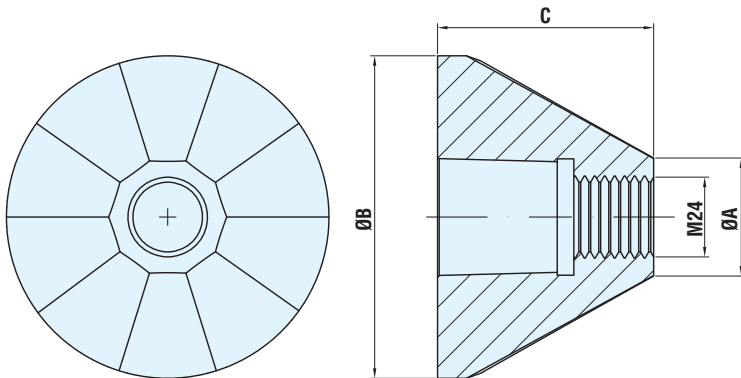
Driver for pipes with 7 (inch 0.276) to 40 (inch 1.575) diameter holes with cylindrical shank



代码 Code	端面数 Nr. Faces
050528000	6

孔直径为 40 (1.575 英寸) ~ 245 (9.646 英寸) 的管道驱动顶尖

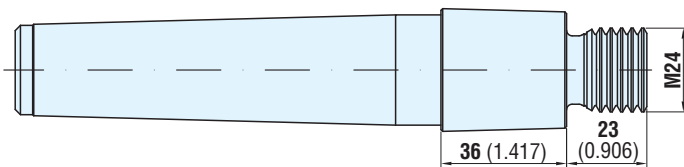
Driver for pipes with 40 (inch 1.575) to 245 (inch 9.646) diameter holes



代码 Code	Ø A	Ø B	C	端面数 Nr. Faces
050500284	37 (1.457)	97 (3.819)	65 (2.559)	10
050500285	95 (3.740)	147 (5.787)	60 (2.362)	15
050500286	145 (5.709)	197 (7.756)	60 (2.362)	15
050500287	195 (7.677)	247 (9.724)	67 (2.638)	15

含莫氏锥度配件的管道驱动顶尖支撑柄

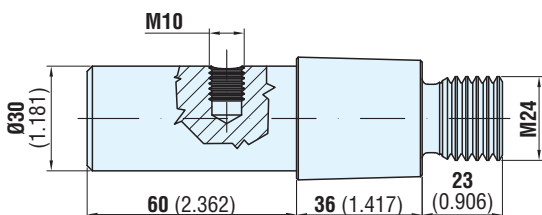
Support shank with morse taper fitting for pipe drivers



代码 Code	锥度 Taper
050500702	CM2
050500703	CM3
050500704	CM4
050500705	CM5

管道驱动顶尖圆柱支撑柄

Cylindrical support shank for pipe drivers



代码 Code
050500700

圆度公差 = $0 \div 0.0015$ ，偏心度公差 = $0 \div 0.0025$

我们可确保满足关于本系列端面驱动顶尖的所有技术建议。可将其用来传动不超过 HRC 63 的硬化轴以及非硬化轴。来自活顶尖侧的 90 Kg 轴向推力便足以传动轴（我们也提供活顶尖，以便让轴的圆度处于千分之一或千分之零点五的范围内）。

示例：对直径范围在 5 mm 至 7 mm 的轴，来自活顶尖侧的 90 Kg 轴向推力便足够。端面驱动顶尖配备有整体平衡类自补偿装置（是我们的专利系统，也用在我们的端面驱动顶尖上，用于轴的车削）。

该系统可实现传动销的高灵敏度自动补偿。因此，端面驱动顶尖在轴上具有显著的传动及同心度能力。

**WITH ROUNDNESS TOLERANCE = $0 \div 0.0015$
AND ECCENTRICITY TOLERANCE = $0 \div 0.0025$**

We are sure of meeting any technical suggestions that may come up with our range of face drivers, for driving hardened shafts of up to HRC 63 and non-hardened shafts too. A 90 Kg axial thrust from the live center side is sufficient to drive the shaft (we supply also the live center to obtain shaft roundness within one thousandths and a half).

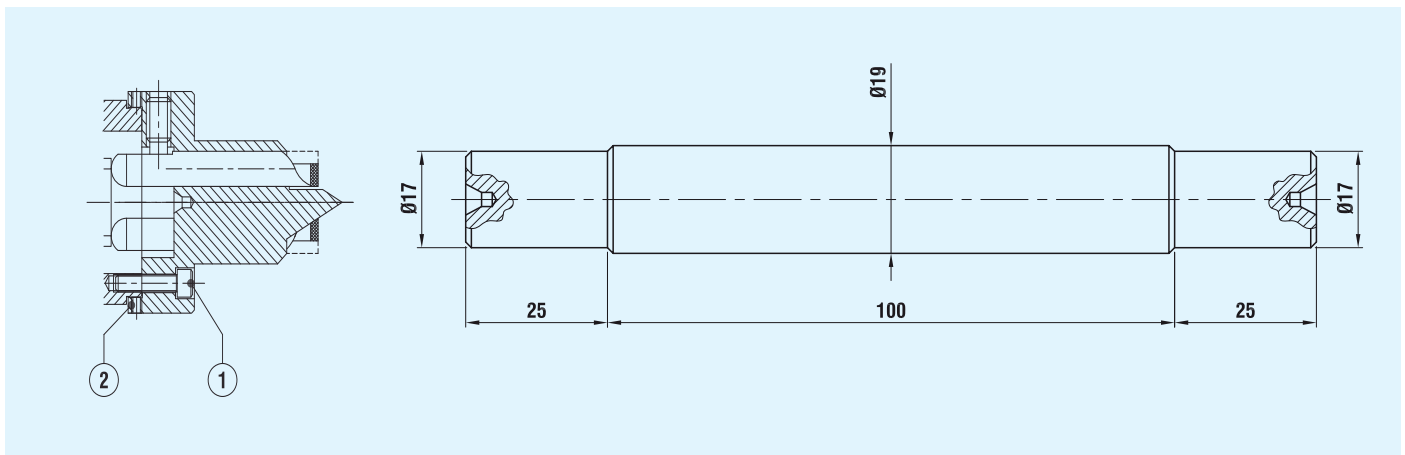
Example: for shafts in the diameter range from 5 mm to 7 mm, a 90 Kg axial thrust from live centre's side is sufficient. The face driver has an integrated balance-type self-compensating system (this is our patented system, which we also use on our face drives for shaft turning).

This system enables highly sensitive self-compensation of the driving pins. As a result the face driver has considerable drive and concentricity capability on the shaft.

传动销垫圈顶尖轴

DRIVING PIN WASHER CENTERING SHAFT

代码 Code
012920001



传动销垫圈定心说明

利用顶尖轴将端面驱动顶尖的中心点定位在中心千分之二范围内，在与待加工零件相同的轴向负载条件下，可将顶尖轴置于端面驱动顶尖和活顶尖之间。

然后用六角扳手稍稍松开位置1的螺栓（参见图片）以及顶尖轴端面驱动顶尖一侧的测微计-比较仪，并利用位置2的销钉将轴定心。在获得所需的定心之后，上紧螺钉（位置1）。

INSTRUCTIONS FOR CENTERING THE DRIVING PIN WASHER

The centering shaft is used to center the face driver's centre point within 2 thousandths, putting the centering shaft between face driver and live centre in the same axial load conditions as those of the piece to be machined.

Then use an Allen wrench to slightly unloose the screws pos. 1 (see picture on the next page) and position the micrometer-comparator on the face driver side of the centering shaft and center the shaft by means of the dowels pos. 2. Once obtained centering required, tighten the screws (pos.1).

对于轴 FOR SHAFTS		最大轴向推力 MINIMUM AXIAL THRUST		最小轴向推力 MAXIMUM AXIAL THRUST	
		传动销上 On driving pins	活顶尖上 On live center	传动销上 On driving pins	活顶尖上 On live center
从 Ø From Ø	到 Ø to Ø	kg.	kg.	kg.	kg.
5	9	50	70	80	110
10	15	60	90	100	150
16	30	70	100	150	220
31	50	100	150	200	300
51	100	150	220	250	370
101	200	200	300	350	800

注意：上述数值仅供参考，有可能随砂轮接触面积以及待加工材料的类型而发生变化。

推力检查：

将工件锁紧在活顶尖和端面驱动顶尖之间以后，绝不要用手旋转零件来检查传动能力，这样一定会导致传动销硬化金属切边钝化。如果没有负载传感器（参见第 90 页）或测力计进行检查，则可以将气动或液压缸的面积（将半径（cm）x 半径 x 3.14）乘以汽缸压力（单位为 bar 或大气压）来得出推力值，单位为 kg。

公式：

直径²（单位 cm）x π x 压力（单位 为BAR 或大气压）= 推力（单位 Kg）。

关于定期维护的注释

- 每工作 1000 小时，要拆除传动销和中心点，仔细进行清洁，然后涂以“MOLYKOTE”润滑脂或适合的润滑脂。
- 重新安装传动销并且最终配合中心点。
- 还可以将端面驱动顶尖返给厂商进行维护和清洁。

N.B. The above values are purely a guide-line and may vary according to grinding wheel contact area and type of material being machined.

THRUST CHECK:

After you have locked the workpiece between live center and face driver, do not, on any account, check driving capability by rotating the piece with your hand: this is certain to blunt the cutting edge in hardened metal of the driving pin. If you do not have a load cell (see page 90) or a dynamometer for these checks, you can obtain thrust values in kg by multiplying the area of the pneumatic or hydraulic cylinder (obtained by multiplying radius in cm x radius x 3.14) by the pressure of the cylinder in bar or atmospheres.

FORMULA:

Radius² (in cm) x π x Pressure (in BAR or ATM) = Thrust in Kg.

NOTES ON SCHEDULED MAINTENANCE

- Every 1000 working hours, remove driving pins and centre point, clean them carefully, and then grease them with "MOLYKOTE" grease or conformable grease.*
- Re -install the driving pins and finally fit the centre point.*
- It is also possible to return the face drive to Technologie FRB for maintenance and cleaning.*

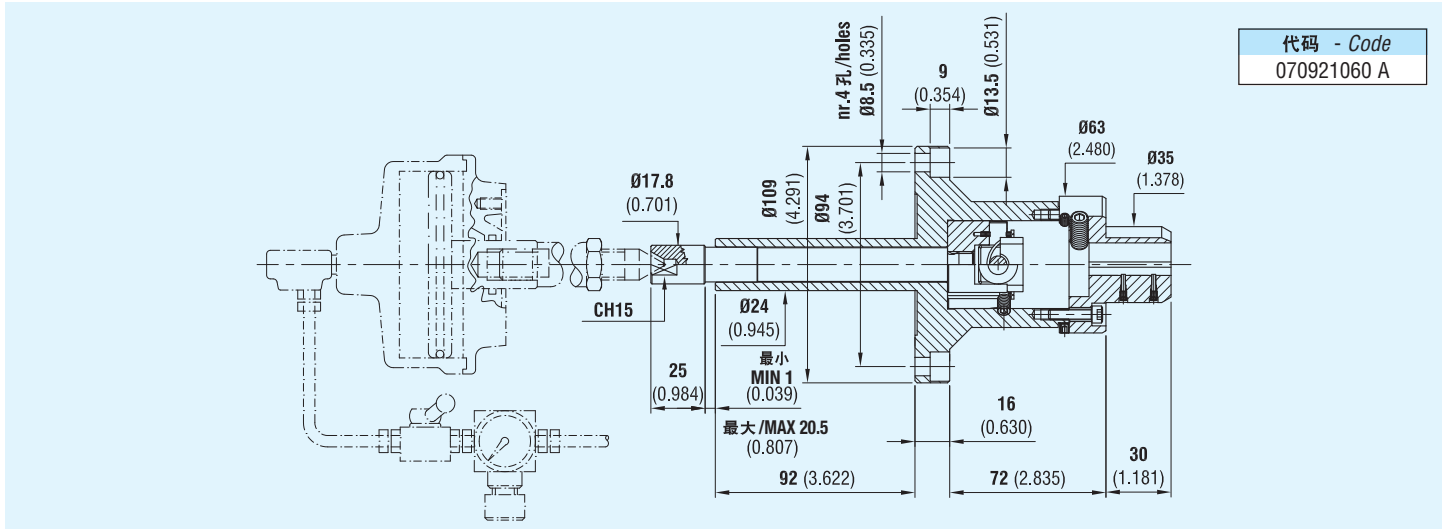
含旋转加工头主轴的磨床液压缸或气缸控制式
端面驱动顶尖 $\Phi 12/70$



FACE DRIVERS $\Phi 12/70$ FOR GRINDING MACHINES WITH ROTATING HEAD SPINDLE, OPERATED BY HYDRAULIC OR PNEUMATIC CYLINDER

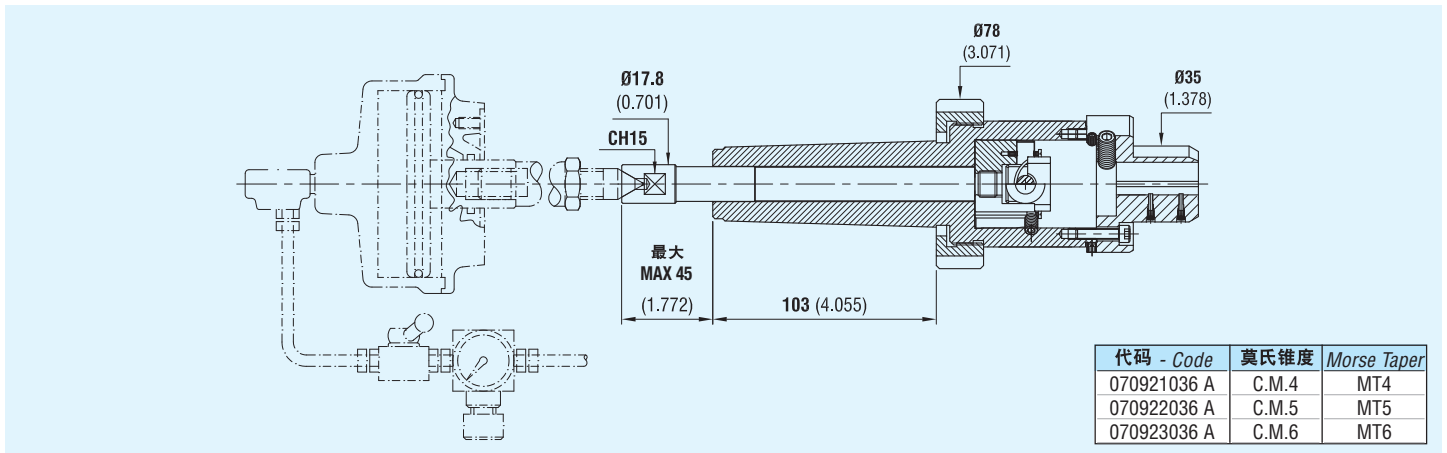
不含传动销和顶尖端的类型

Version without driving pins and center point



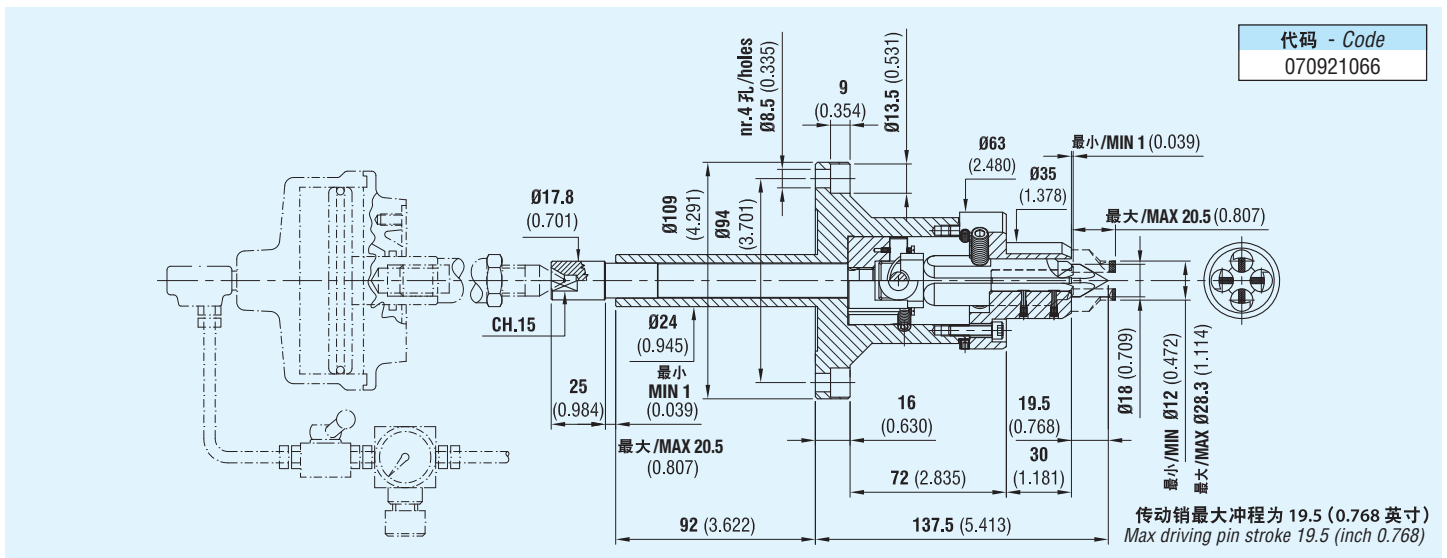
不含传动销和顶尖端的类型

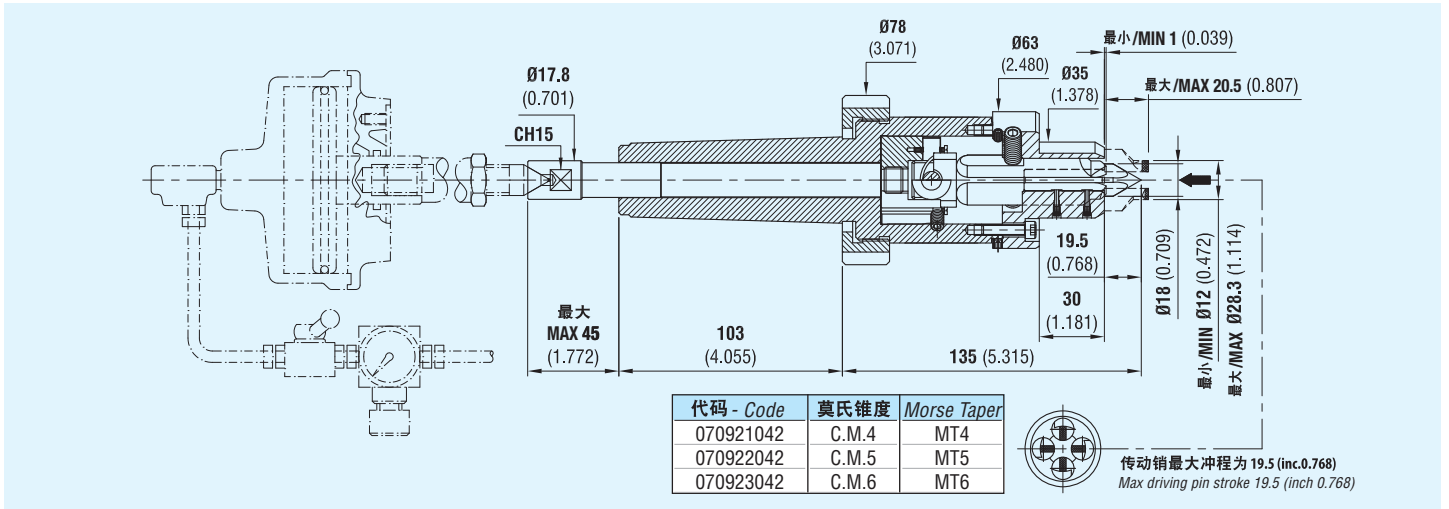
Version without driving pins and center point



装有传动销和定尖端的传动轴类

Version with assembled center point and driving pins

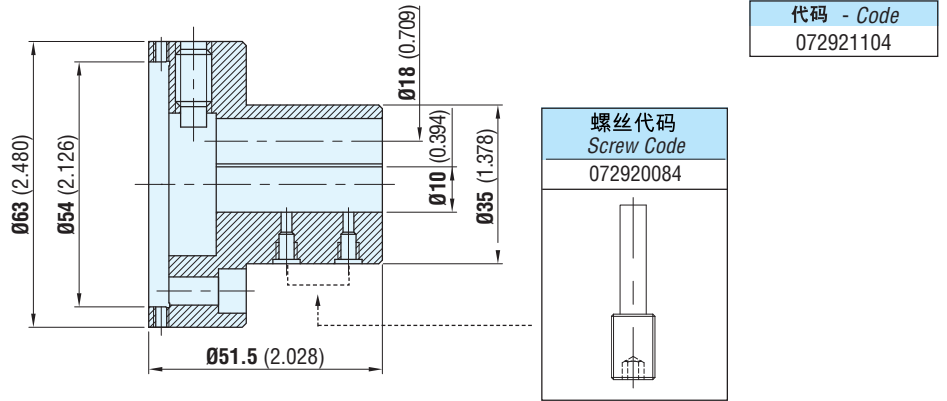




备件 / SPARE PARTS

端面驱动顶尖 $\phi 12/\phi 70$ 的传动销和顶尖端平面卡盘

Driving pins and center point face plate for face driver $\phi 12/\phi 70$



传动轴 ($\phi 12 \sim \phi 70$) 硬质合金传动销

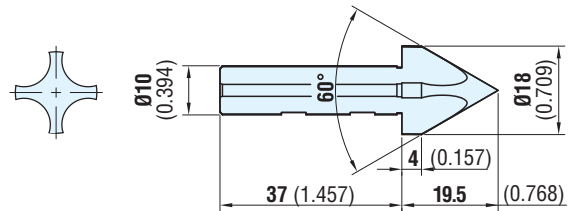
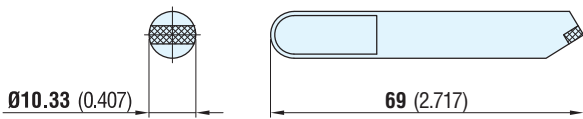
Driving pins with added hard metal for driving shafts from $\phi 12$ to $\phi 70$

代码 - Code: 080920003

与顶尖 ($\phi 2 \sim \phi 16$) 配套的固定顶尖端

Fixed center point for centers from $\phi 2$ to $\phi 16$

代码 - Code: 072102768



传动轴 ($\phi 12 \sim \phi 70$, 降低后可使传动轮移动至端面驱动顶尖侧) 硬质合金传动销 (边缘减少)

Reduced edge driving pins with added hard metal for driving shafts from $\phi 12$ to $\phi 70$ lowered to permit the wheel to get out on face driver side

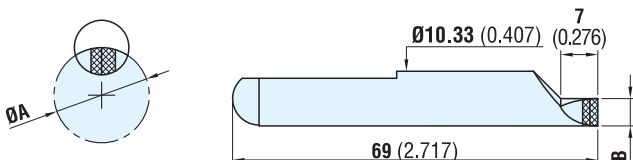
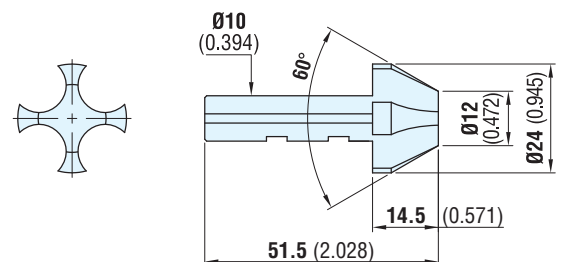
含插槽的与顶尖或孔 ($\phi 14 \sim \phi 23$) 相配套的固定顶尖端

Fixed center point with slots for centers or holes from $\phi 14$ to $\phi 23$

代码 - Code: 179200101

注：关于这些尺寸，请联系我们的技术部门
WARNING: contact our technical department for these dimensions

代码 Codice	ϕA	B
091920112	12 (0.472)	2.20 (0.087)
091920114	14 (0.551)	3.20 (0.126)
091920116	16 (0.630)	4.20 (0.165)
091920118	18 (0.709)	5.20 (0.205)
091920120	20 (0.787)	6.20 (0.244)
091920122	22 (0.866)	7.20 (0.283)
091920124	24 (0.945)	8.20 (0.323)
091920126	26 (1.024)	9.20 (0.362)



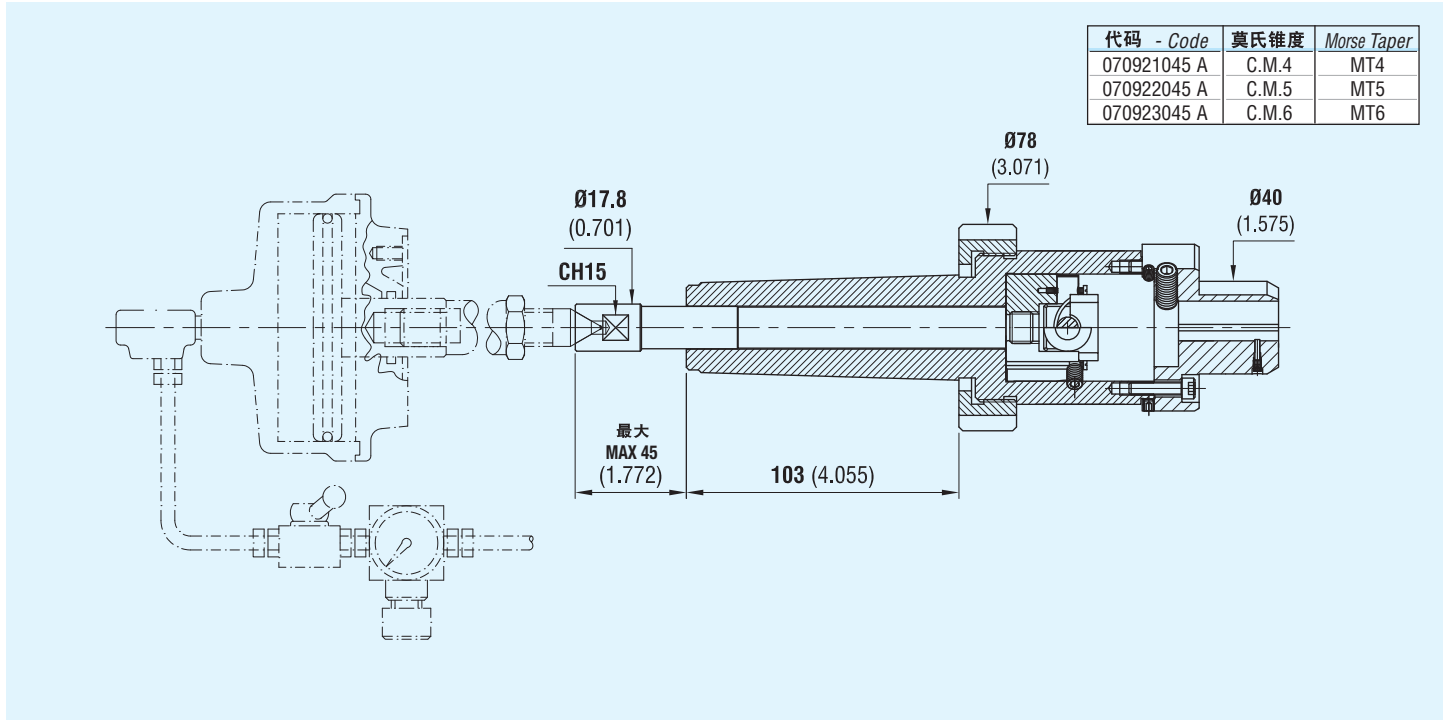
含旋转加工头主轴的磨床液压缸或气缸控制式
端面驱动顶尖 $\Phi 15/75$



FACE DRIVERS $\Phi 15/75$ FOR GRINDING MACHINES WITH ROTATING HEAD
SPINDLE, OPERATED BY HYDRAULIC OR PNEUMATIC CYLINDER

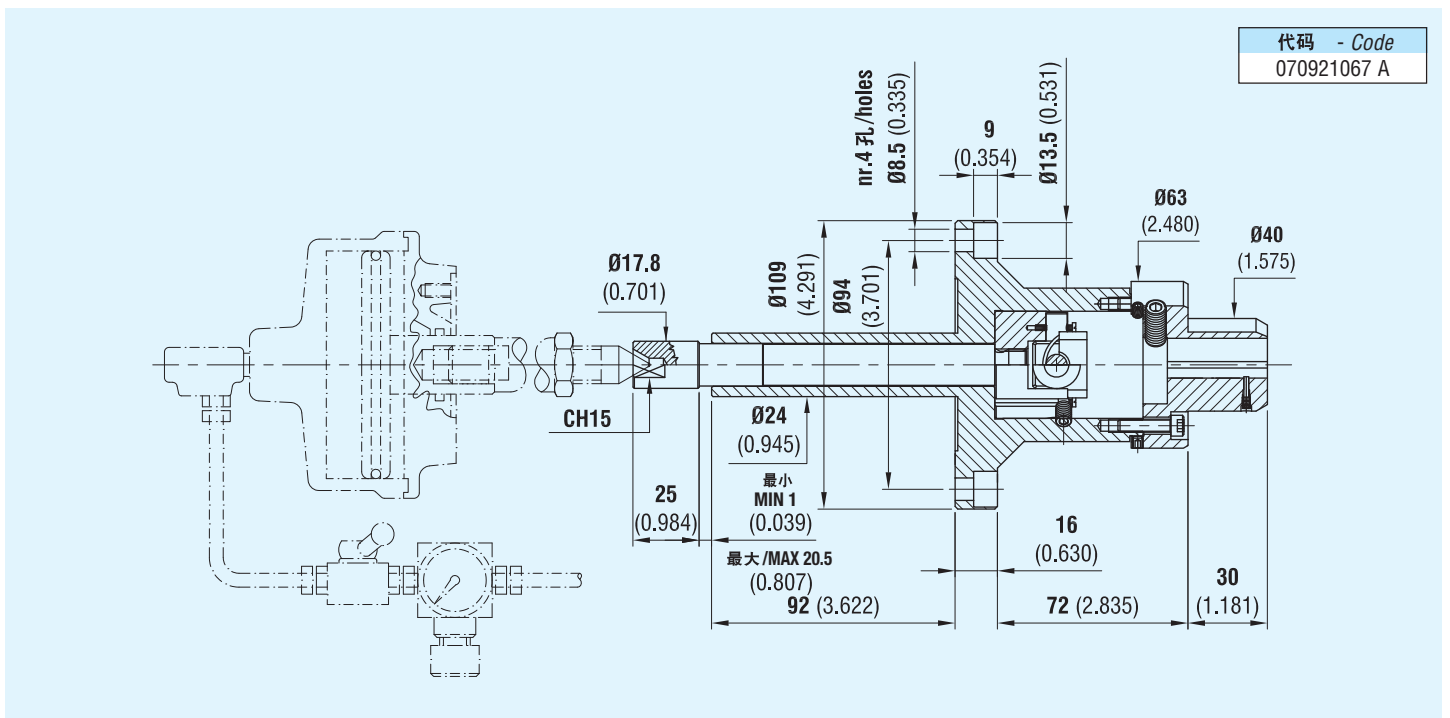
未装有传动销和定尖端的传动轴类

Version without driving pins and center point



未装有传动销和定尖端的传动轴类

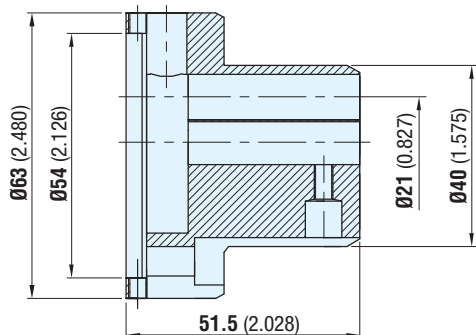
Version without driving pins and center point



端面驱动顶尖 $\Phi 15/75$ 的传动销和顶尖端平面卡盘

代码 - Code
072921301

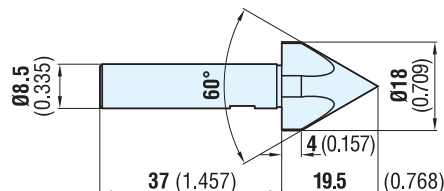
Driving pins and center point face plate for face driver $\Phi 15/75$



与顶尖 ($\Phi 2 \sim \Phi 16$) 配套的固定顶尖端

代码 - Code
072102769

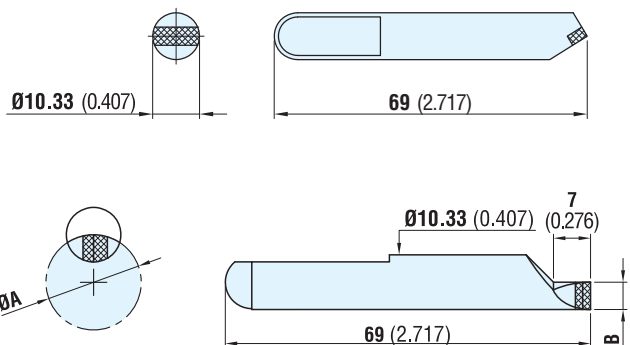
FIXED center point for centers from $\Phi 2$ to $\Phi 16$



传动轴 ($\Phi 15 \sim \Phi 75$) 硬质合金传动销

代码 - Code
080920003

Driving pins with added hard metal for driving shafts from $\Phi 15$ to $\Phi 75$



注：关于这些尺寸，请联系我们的技术部门
WARNING: contact our technical department for these dimensions

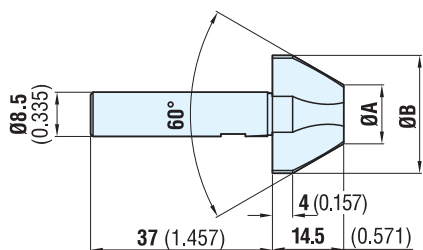
代码 - Code	ΦA	B
091920112	15 (0.591)	2.20 (0.087)
091920114	17 (0.669)	3.20 (0.126)
091920116	19 (0.748)	4.20 (0.165)
091920118	21 (0.827)	5.20 (0.205)
091920120	23 (0.906)	6.20 (0.244)
091920122	25 (0.984)	7.20 (0.283)
091920124	27 (1.063)	8.20 (0.323)
091920126	29 (1.142)	9.20 (0.362)

传动轴 ($\Phi 15 \sim \Phi 75$, 降低后可使传动轮移动至端面驱动顶尖侧) 硬质合金传动销 (边缘减少)

Reduced edge driving pins with added hard metal for driving shafts from $\Phi 15$ to $\Phi 75$ lowered to permit the wheel to get out on face driver side

含插槽的固定顶尖端 (适于大型顶尖或孔)

Fixed center point with slots (for large centers or holes)



含插槽的顶尖端代码 Code centre points with slots	含插槽的顶尖端尺寸 Dimensions points with slots		适于顶尖或“F”孔 For centers or “F” holes	
	ΦA	ΦB	(最小)/from Φ	(最大)/to Φ
171711018	12 (0.472)	24 (0.945)	15 (0.591)	23 (0.906)
171711021	18 (0.709)	30 (1.181)	21 (0.827)	26 (1.024)

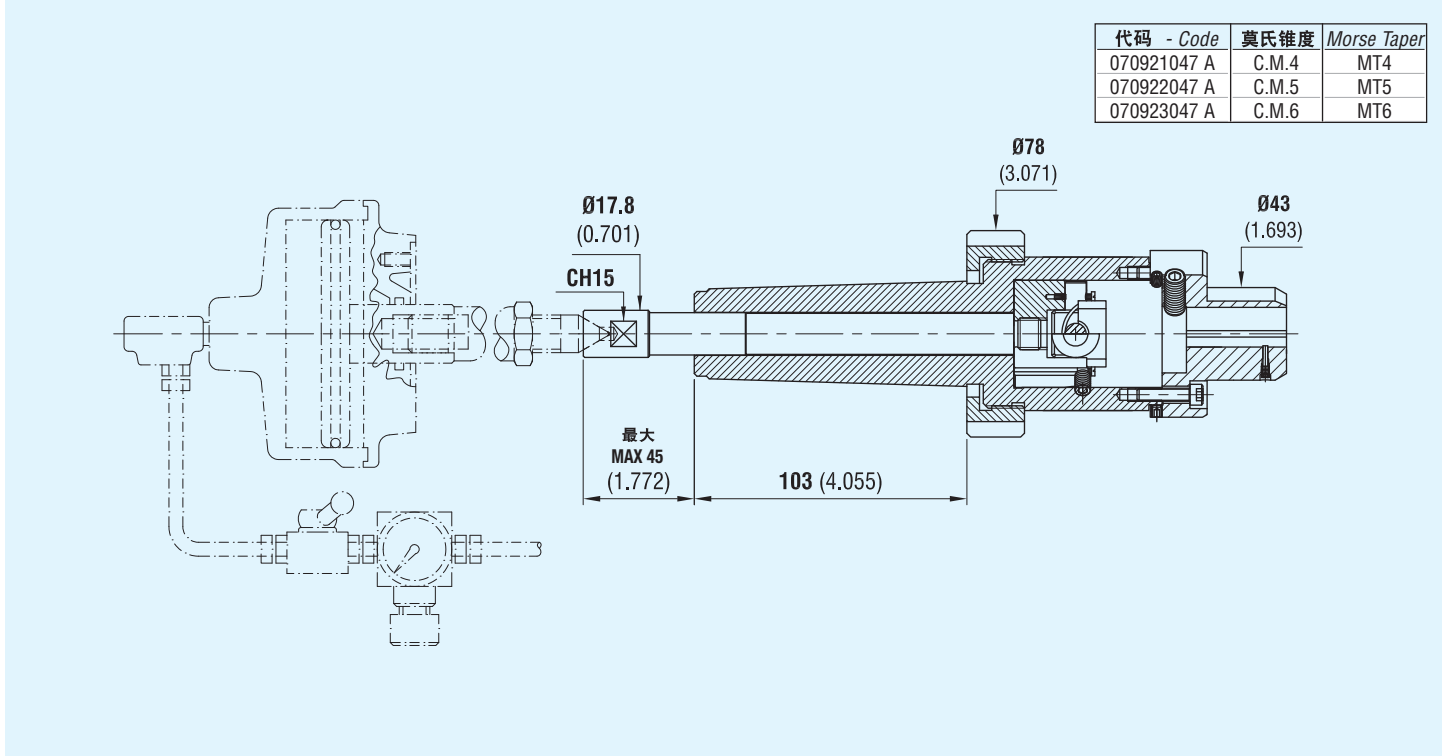
含旋转加工头主轴的磨床液压缸或气缸控制式
端面驱动顶尖 $\Phi 20/80$



FACE DRIVERS $\Phi 20/80$ FOR GRINDING MACHINES WITH ROTATING HEAD
SPINDLE, OPERATED BY HYDRAULIC OR PNEUMATIC CYLINDER

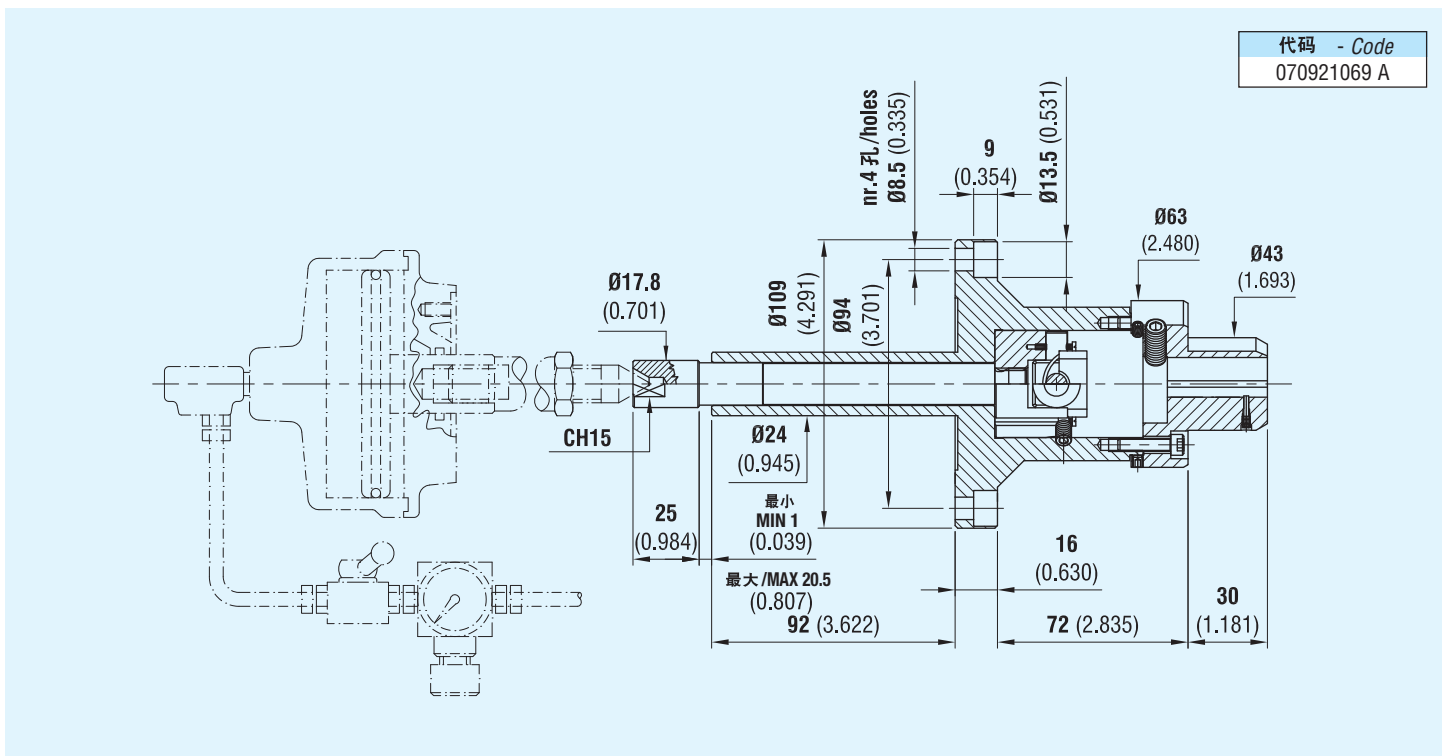
未装有传动销和定尖端的传动轴类

Version without driving pins and center point



未装有传动销和定尖端的传动轴类

Version without driving pins and center point

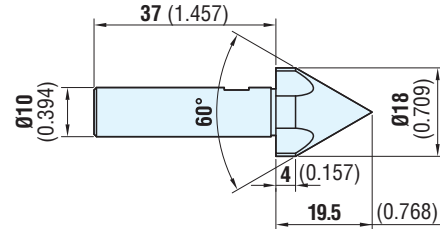
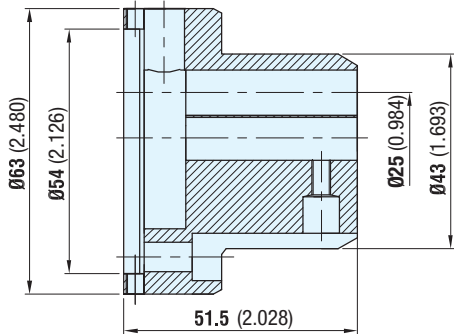


端面驱动顶尖 $\Phi 20/80$ 传动销和顶尖端平面卡盘
 Driving pins and center point face plate
 for face driver $\Phi 20/80$

代码 - Code
 072921302

与顶尖 ($\Phi 2 \sim \Phi 16$) 配套的固定顶尖端
 FIXED center point for centers from $\Phi 2$ to $\Phi 16$

代码 - Code
 072102770



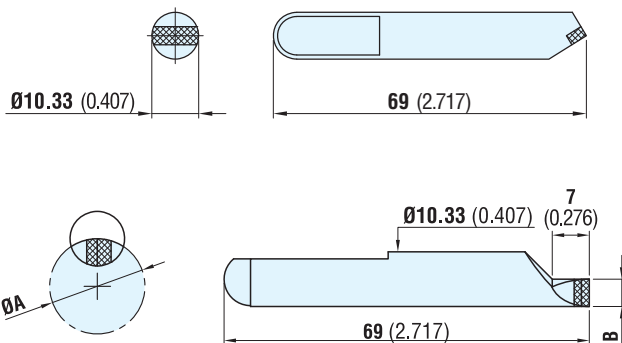
传动轴 ($\Phi 20 \sim \Phi 80$) 硬质合金传动销
 Driving pins with added hard metal for
 driving shafts from $\Phi 20$ to $\Phi 80$

代码 - Code
 080920003

注：关于这些尺寸，
 请联系我们的技术部门

WARNING: contact our
 technical department
 for these dimensions

代码 - Code	ΦA	B
091920112	19 (0.748)	2.20 (0.087)
091920114	21 (0.827)	3.20 (0.126)
091920116	23 (0.906)	4.20 (0.165)
091920118	25 (0.984)	5.20 (0.205)
091920120	27 (1.063)	6.20 (0.244)
091920122	29 (1.142)	7.20 (0.283)
091920124	31 (1.220)	8.20 (0.323)
091920126	33 (1.299)	9.20 (0.362)



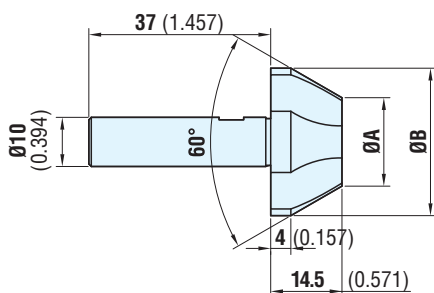
传动轴 ($\Phi 20 \sim \Phi 80$, 降低
 后可使传动轮移动至端面驱
 动顶尖侧) 硬质合金传动销
 (边缘减少)

Reduced edge driving pins
 with added hard metal for
 driving shafts from $\Phi 15$ to Φ
 75 lowered to permit the
 wheel to get out on face driver
 side

含插槽的固定顶尖端
 (适于大型顶尖或孔)

Fixed center point with slots
 (for large centers or holes)

含插槽的 顶尖端代码 Code centre points with slots	含插槽的顶尖端尺寸 Dimensions points with slots		适于顶尖或“F”孔 For centers or “F” holes	
	ΦA	ΦB	(最小)/from Φ	(最大)/to Φ
171712021	12 (0.472)	24 (0.945)	15 (0.591)	23 (0.906)
171712023	15 (0.591)	27 (1.063)	18 (0.709)	26 (1.024)
171712025	18 (0.709)	30 (1.181)	21 (0.827)	29 (1.142)
171712028	24 (0.945)	36 (1.417)	26 (1.024)	31 (1.220)



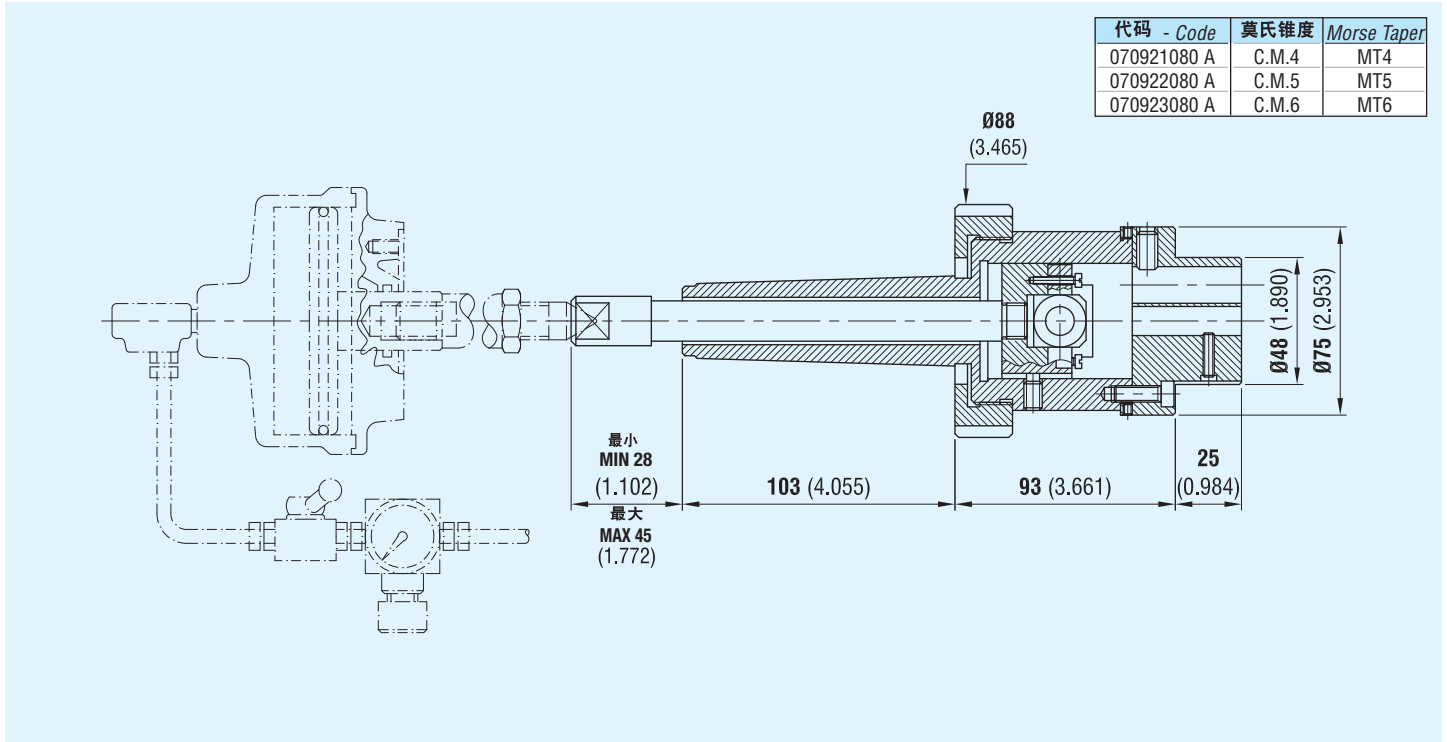
含旋转加工头主轴的磨床液压缸或气缸控制式
端面驱动顶尖 $\Phi 20/100$



FACE DRIVERS $\Phi 20/100$ FOR GRINDING MACHINES WITH ROTATING HEAD
SPINDLE, OPERATED BY HYDRAULIC OR PNEUMATIC CYLINDER

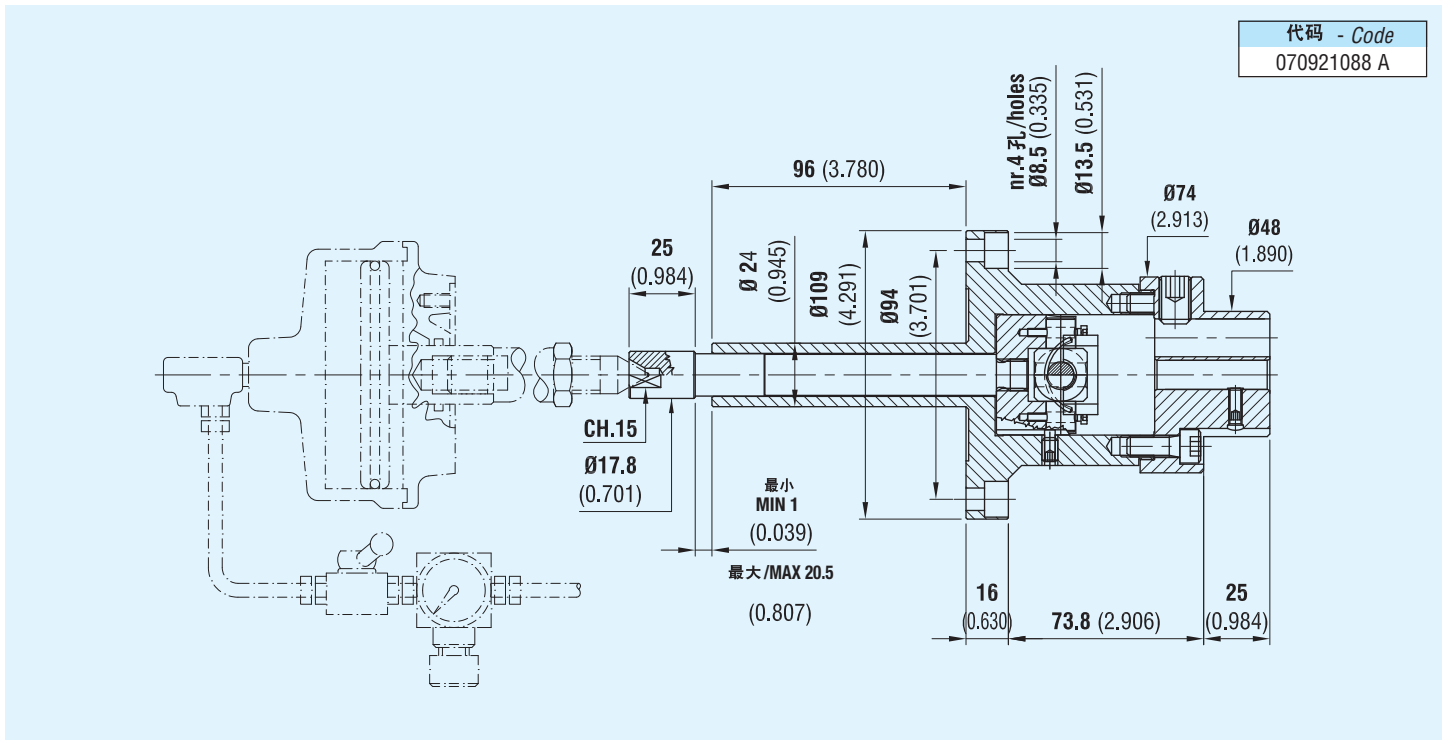
未装有传动销和定尖端的传动轴类

Version without driving pins and center point



未装有传动销和定尖端的传动轴类

Version without driving pins and center point



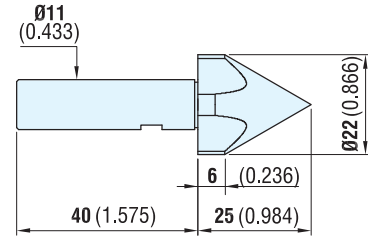
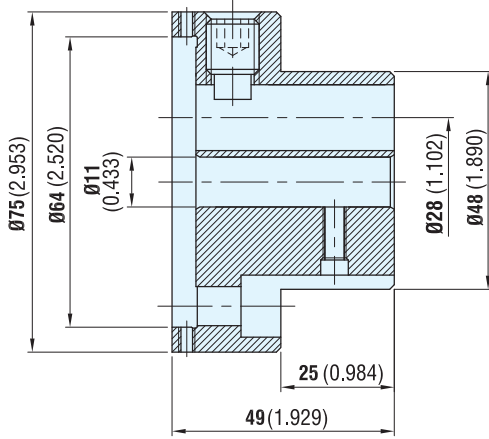
SPARE PARTS FOR FACE DRIVER $\Phi 20/100$

端面驱动顶尖 $\Phi 20/100$ 的传动销和顶尖端平面卡盘
Driving pins and center point face plate for face driver $\Phi 20/100$

代码 - Code
072921203

与顶尖 ($\Phi 2 \sim \Phi 20$) 配套的固定顶尖端
Fixed center point for centers from $\Phi 2$ to $\Phi 20$

代码 - Code
072102771

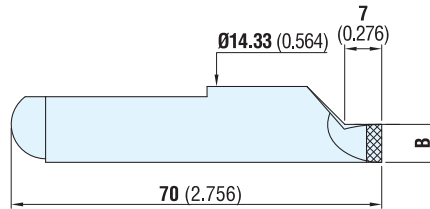
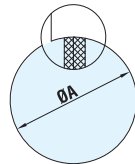
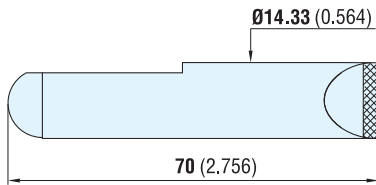


传动轴 ($\Phi 20 \sim \Phi 100$) 硬质合金传动销
Driving pins with added hard metal for driving shafts from $\Phi 20$ to $\Phi 100$

代码 - Code
080920004

注：关于这些尺寸，请联系我们的技术部门
WARNING: contact our technical department for these dimensions

代码 - Code	ΦA	B
091920219	19 (0.748)	2.70 (0.106)
091920222	22 (0.866)	4.20 (0.165)
091920224	24 (0.945)	5.20 (0.205)
091920226	26 (1.024)	6.20 (0.244)
091920228	28 (1.102)	7.20 (0.283)
091920232	32 (1.260)	9.20 (0.362)
091920236	36 (1.417)	11.20 (0.441)

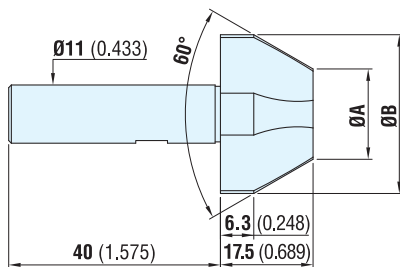


传动轴 ($\Phi 20 \sim \Phi 100$, 降低) 可使传动轮移动至端面驱动顶尖侧) 硬质合金传动销 (边缘减少)

Reduced edge driving pins with added hard metal for driving shafts from $\Phi 20$ to $\Phi 100$ lowered to permit the wheel to get out on face driver side

含插槽的与顶尖或孔 ($\Phi 19 \sim \Phi 35$) 配套的固定顶尖端
Fixed center point with slots for centers or holes from $\Phi 19$ to $\Phi 35$

代码 Code	尺寸 Dimensions		适于顶尖或孔 For centers or holes	
	ΦA	ΦB	(最小)/from Φ	(最大)/to Φ
179200114	17 (0.669)	30 (1.181)	19 (0.748)	29 (1.142)
179200116	23 (0.906)	36 (1.417)	25 (0.984)	35 (1.378)



SPARE PARTS FOR FACE DRIVER $\Phi 45/150$

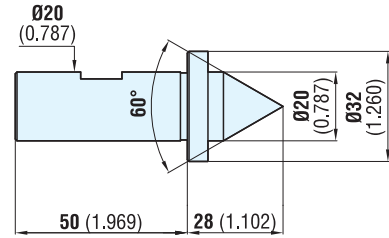
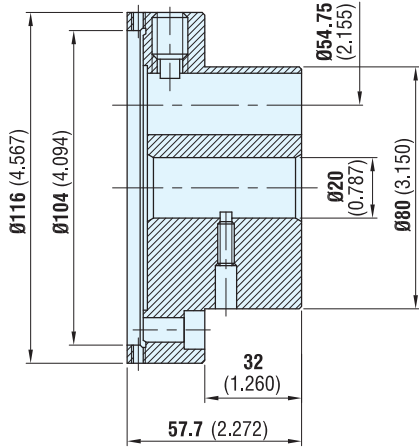
端面驱动顶尖 $\Phi 45/150$ 的传动销和顶尖端平面卡盘
Driving pins and center point face plate for face driver $\Phi 45/150$

代码 - Code
072921205

与顶尖 ($\Phi 3 \sim \Phi 18$) 配套的固定顶尖端

Fixed center point for centers from $\Phi 3$ to $\Phi 18$

代码 - Code
072920104



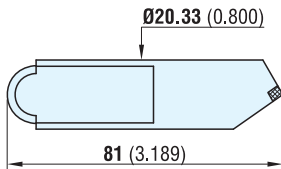
传动轴 ($\Phi 45 \sim \Phi 150$) 硬质合金传动销

Driving pins with added hard metal for driving shafts from $\Phi 45$ to $\Phi 150$

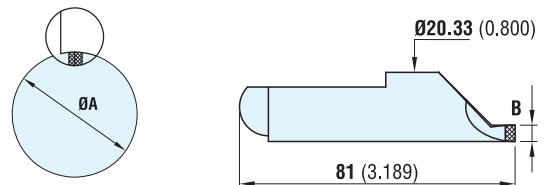
代码 - Code
080920005

传动轴 ($\Phi 45 \sim \Phi 150$, 降低) 可使传动轮移动至端面驱动顶尖侧) 硬质合金传动销 (边缘减少)

代码 - Code	ΦA	B
091920344	44 (1.732)	4.8 (0.189)
091920350	50 (1.969)	7.8 (0.307)
091920355	55 (2.165)	10.3 (0.406)
091920360	60 (2.362)	12.8 (0.504)
091920365	65 (2.559)	15.3 (0.602)

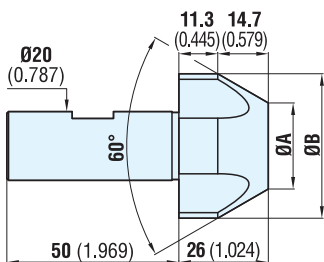


Reduced edge driving pins with added hard metal for driving shafts from $\Phi 45$ to $\Phi 150$ lowered to permit the wheel to get out on face driver side



含插槽的与顶尖或孔 ($\Phi 18 \sim \Phi 71$) 配套的固定顶尖端

Fixed center point with slots for centers or holes from $\Phi 18$ to $\Phi 71$



代码 Code	尺寸 Dimensions		适于顶尖或孔 For centers or holes	
	ΦA	ΦB	(最小)/from Φ	(最大)/to Φ
171713031	15 (0.591)	32 (1.260)	18 (0.709)	31 (1.220)
171713032	25 (0.984)	42 (1.654)	28 (1.102)	41 (1.614)
171713033	35 (1.378)	52 (2.047)	38 (1.496)	51 (2.008)
171713034	45 (1.772)	62 (2.441)	48 (1.890)	61 (2.402)
171713035	55 (2.165)	72 (2.835)	58 (2.283)	71 (2.795)

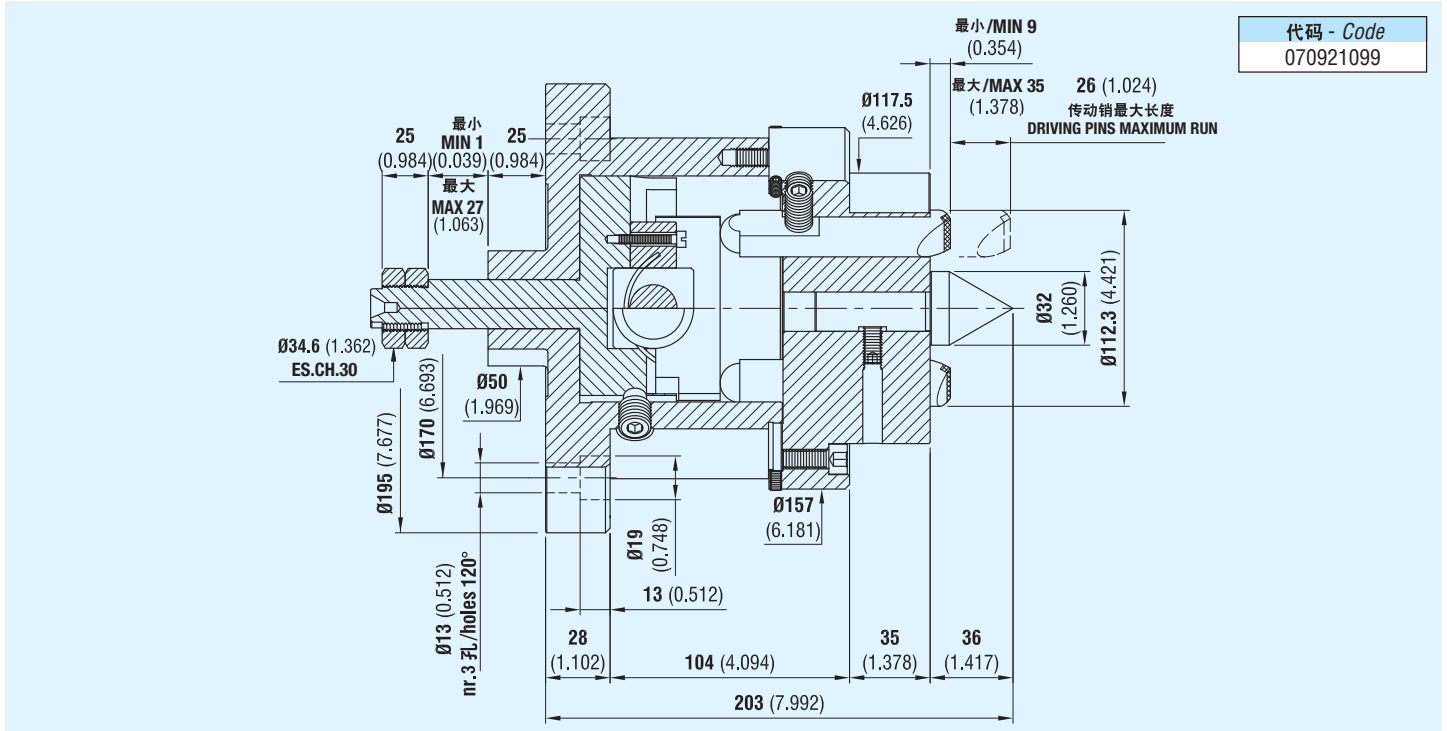
含旋转加工头主轴的磨床液压缸或气缸控制式端面驱动顶尖
 $\Phi 100/300$ 和 $\Phi 180/400$ (配法兰配件和可互换固定顶尖端)



FACE DRIVERS $\Phi 100/300$ AND $\Phi 180/400$ FOR GRINDING MACHINES WITH ROTATING HEAD SPINDLE, OPERATED BY HYDRAULIC OR PNEUMATIC CYLINDER, WITH FLANGE FITTING AND INTERCHANGEABLE FIXED CENTER POINT

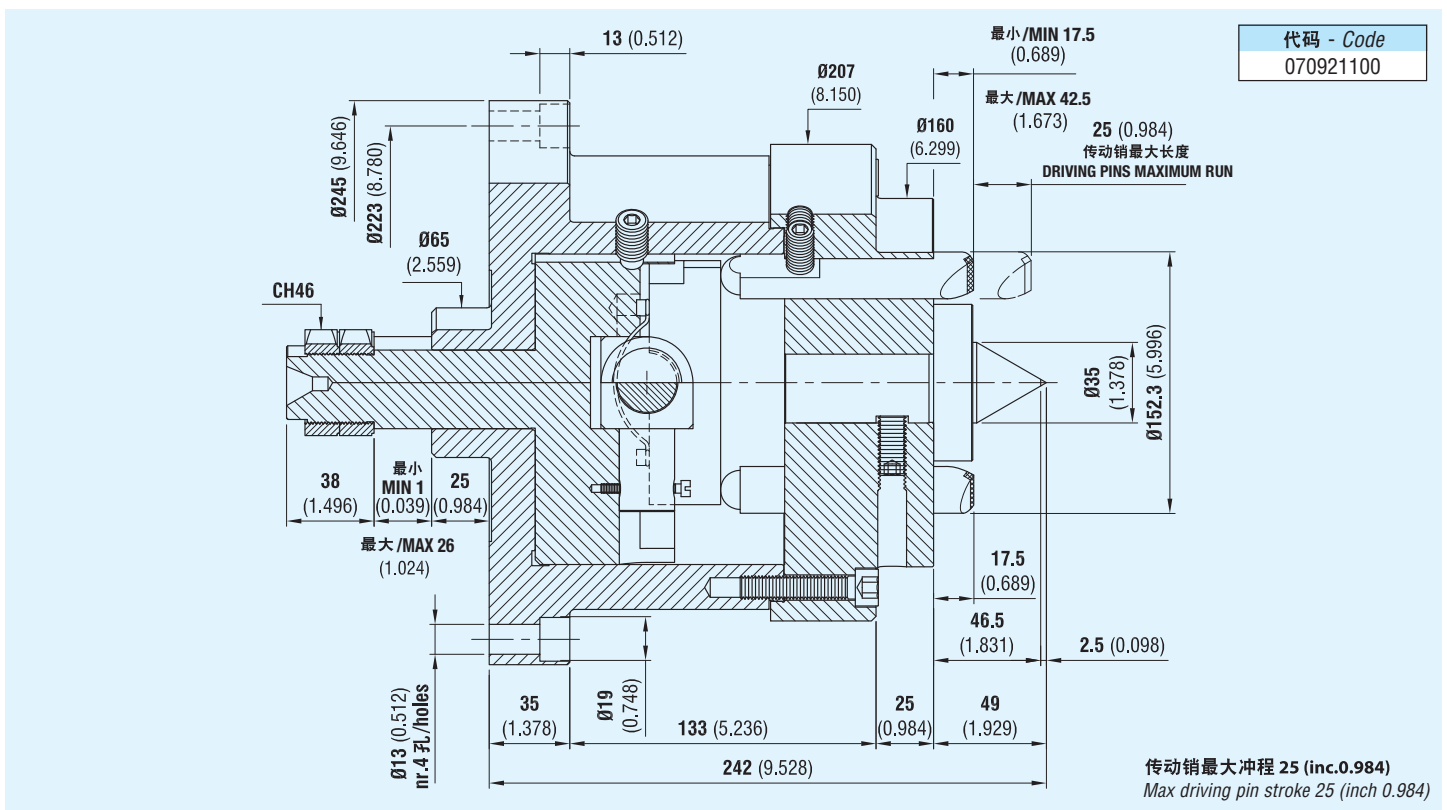
端面驱动顶尖 $\Phi 100/300$

FACE DRIVERS $\Phi 100/300$



端面驱动顶尖 $\Phi 180/400$

FACE DRIVERS $\Phi 180/400$



SPARE PARTS

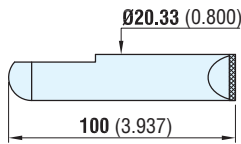
适于端面驱动顶尖 $\Phi 100/300$

For face driver $\varnothing 100/300$

传动轴 ($\Phi 100\sim\Phi 300$) 硬质合金传动销

Driving pins with added hard metal for driving shafts from $\varnothing 100$ to $\varnothing 300$

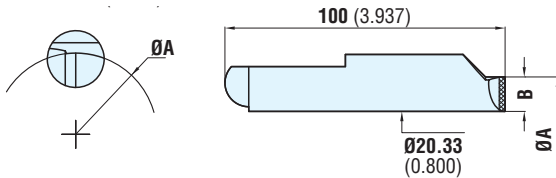
代码 - Code
080920400



传动轴 ($\Phi 100\sim\Phi 300$, 降低后可使传动轮移动至端面驱动顶尖侧) 硬质合金传动销 (边缘减少)

Reduced edge driving pins with added hard metal for driving shafts from $\varnothing 100$ to $\varnothing 300$ lowered to permit the wheel to get out on face driver side

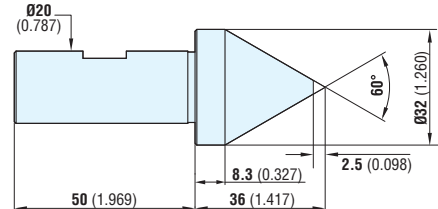
代码 - Code	$\varnothing A$	B
091920402	84 (3.307)	6.3 (0.248)
091920403	89 (3.504)	8.8 (0.346)
091920404	94 (3.701)	11.3 (0.445)
091920405	99 (3.898)	13.8 (0.543)



与顶尖 ($\Phi 3\sim\Phi 28$) 配套的固定顶尖端

Fixed center point for centers from $\varnothing 3$ to $\varnothing 28$

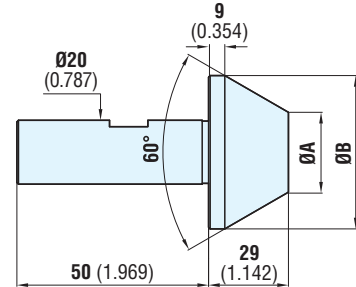
代码 - Code
072102765



含插槽的与顶尖或孔 ($\Phi 28\sim\Phi 100$) 配套的固定顶尖端

Fixed center point with slots for centers or holes from $\varnothing 28$ to $\varnothing 100$

代码 Code	尺寸 Dimensions		适于顶尖或孔 For centers or holes	
	$\varnothing A$	$\varnothing B$	(最小)/from \varnothing	(最大)/to \varnothing
171714019	25 (0.984)	48 (1.890)	28 (1.102)	47 (1.850)
171714020	42 (1.654)	65 (2.559)	45 (1.772)	64 (2.520)
171714021	60 (2.362)	83 (3.268)	63 (2.480)	82 (3.228)
171714022	78 (3.071)	101 (3.976)	81 (3.189)	100 (3.937)



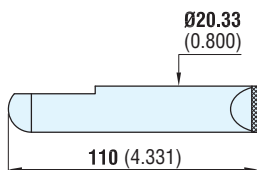
端面驱动顶尖 $\Phi 180/400$

For face driver $\varnothing 180/400$

传动轴 ($\Phi 180\sim\Phi 400$) 硬质合金传动销含插槽和边缘减少的传动销的顶尖端可根据需要提供

代码 - Code
080920401

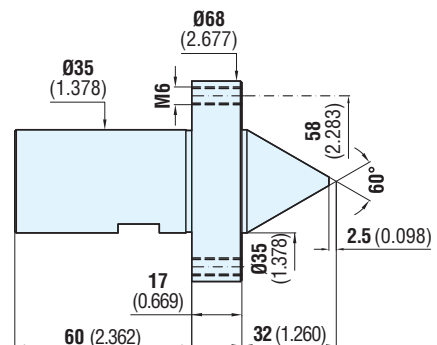
Driving pins with added hard metal for driving shafts from $\varnothing 180$ to $\varnothing 400$. Center points with slots and reduced edge driving pins available on request



端面驱动顶尖 180/400 固定顶尖端

Fixed center point for face driver 180/400

代码 - Code
072102763



传感器袋的组成部分

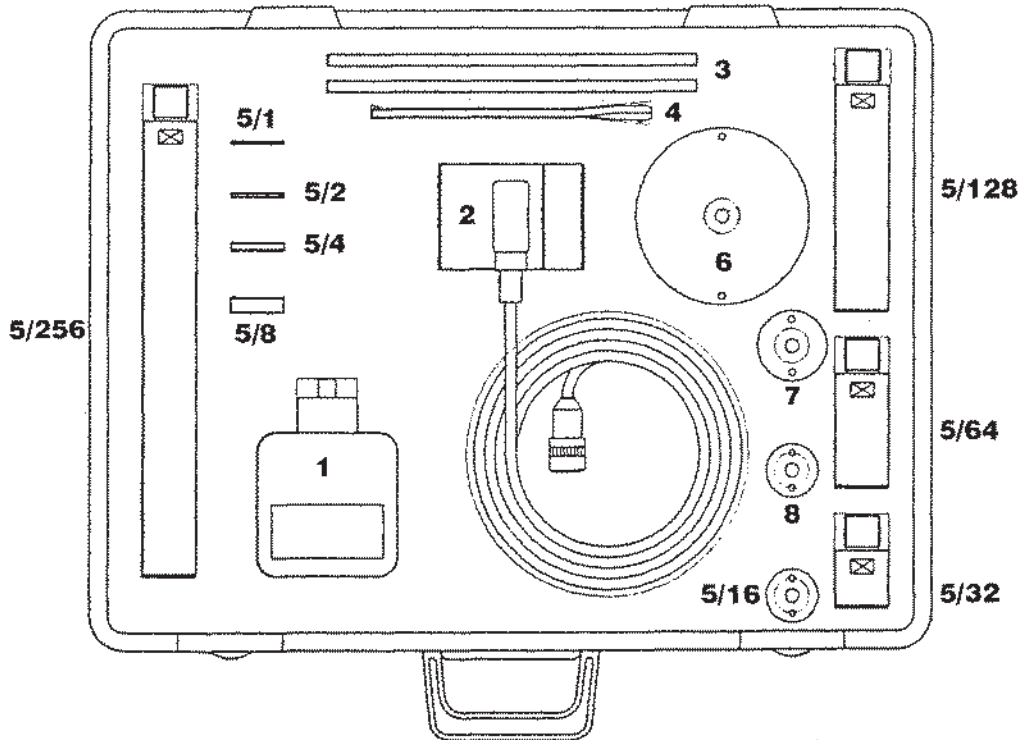
Contents of the bag

代码 Code
105090303

Q.&/Q.ty	品名 /Description	位置/Position
1	数字电子测力计 /Digital electronic Dynamometer	1
1	数字测力计的测力传感器 /Load cell for digital dynamometer	2
2	叉形扳手 27mm /Fork wrenches mm 27	3
1	转矩扳手 /Torque wrench	4
1	二进制系列套筒 1.2.4.8.16.32.64.128. 256 /Bynary range of sleeves 1.2.4.8.16.32.64.128. 256	5/1.2.....256
1	顶尖帽端面驱动顶尖侧 $\Phi 100$ /Centered cap face driver side $\Phi 100$	6
1	顶尖帽端面驱动顶尖侧 $\Phi 40$ /Centered cap face driver side $\Phi 40$	7
1	顶尖帽活顶尖 $\Phi 30$ /Centered cap live center $\Phi 30$	8
	含手册 /And with instruction book	

组成部分布置图

DISPOSITION OF THE CONTENTS



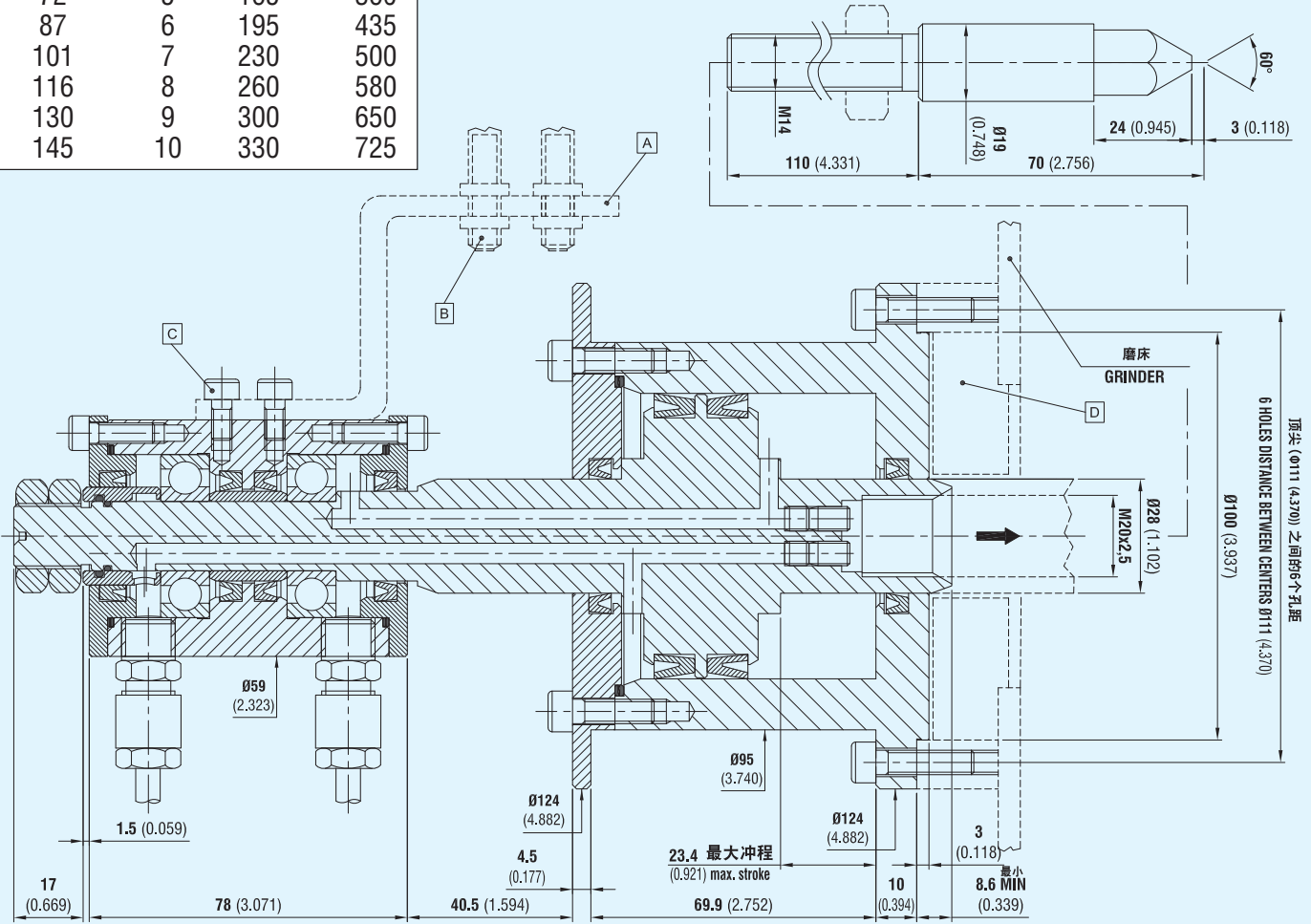
与缸体 (代码 070920045)
相对应的压力
(面积=32.3cm²)
Pressure that can be
used with our cylinder
code 070920045
(area = cm² 32.3)

p.s.i.	Bar	Kg.	Lbs
58	4	130	290
72	5	165	360
87	6	195	435
101	7	230	500
116	8	260	580
130	9	300	650
145	10	330	725

推杆
PUSHER
代码 - CODE 070920050

缸体
CYLINDER
代码 - CODE 070920045

传感器支架
BRACKET SUPPORT MICRO
代码 - CODE 070920051



活塞横截面积: 32.3cm²
最大允许压力: 40Bar
最大速度: 1500r.p.m.

PISTON CROSS SECTION AREA: 32,3 cm²
MAX PRESSURE ALLOWED: 40 Bar
MAX SPEED: 1500 r.p.m.

未含零件 / PARTS NOT INCLUDED

- A) 位置接近开关
- B) 接近开关
- C) 螺钉
- D) 适配器 (经调节适合磨床)

- Position proximity switches**
- Proximity switches**
- Screws**
- Adaptor (to be adjusted to the grinding machines)**