

Round and shaped cuts 

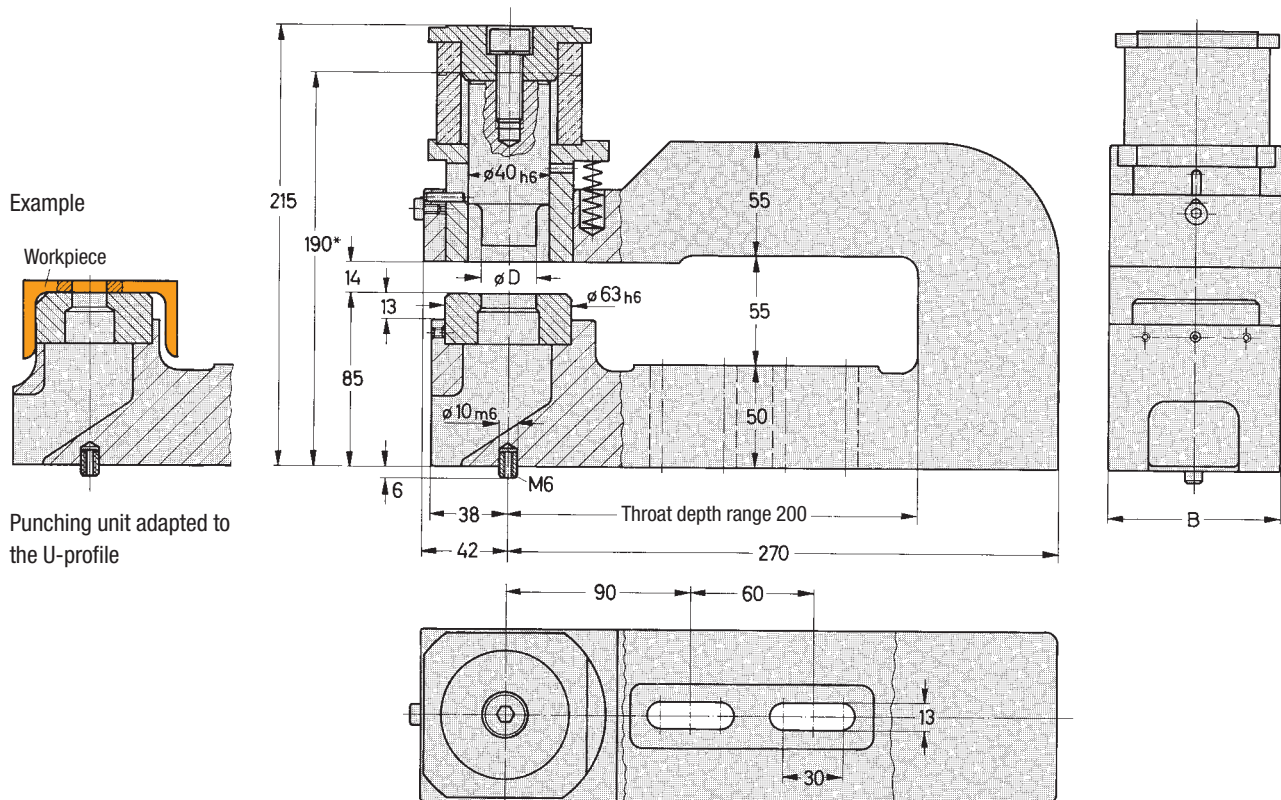
Hole diameter **22–38 mm**

Material thickness for steel St 60 **2–10 mm**



With small modifications these punching units are suitable for punching L-, U-, or Z-profiles, see application example.

Punching tools (punch and die) have to be ordered separately.
See table below.

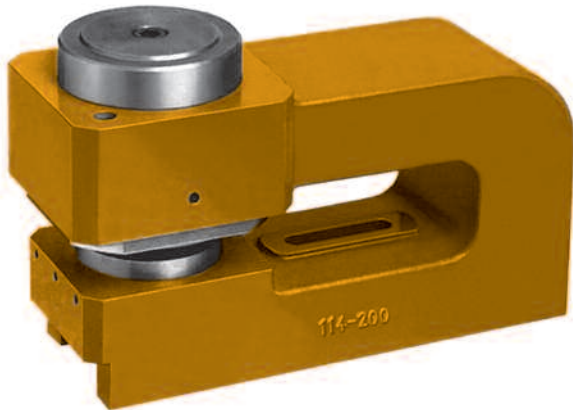
Accessories See pages accessories.



* Lower edge of punch and upper edge of die are flush

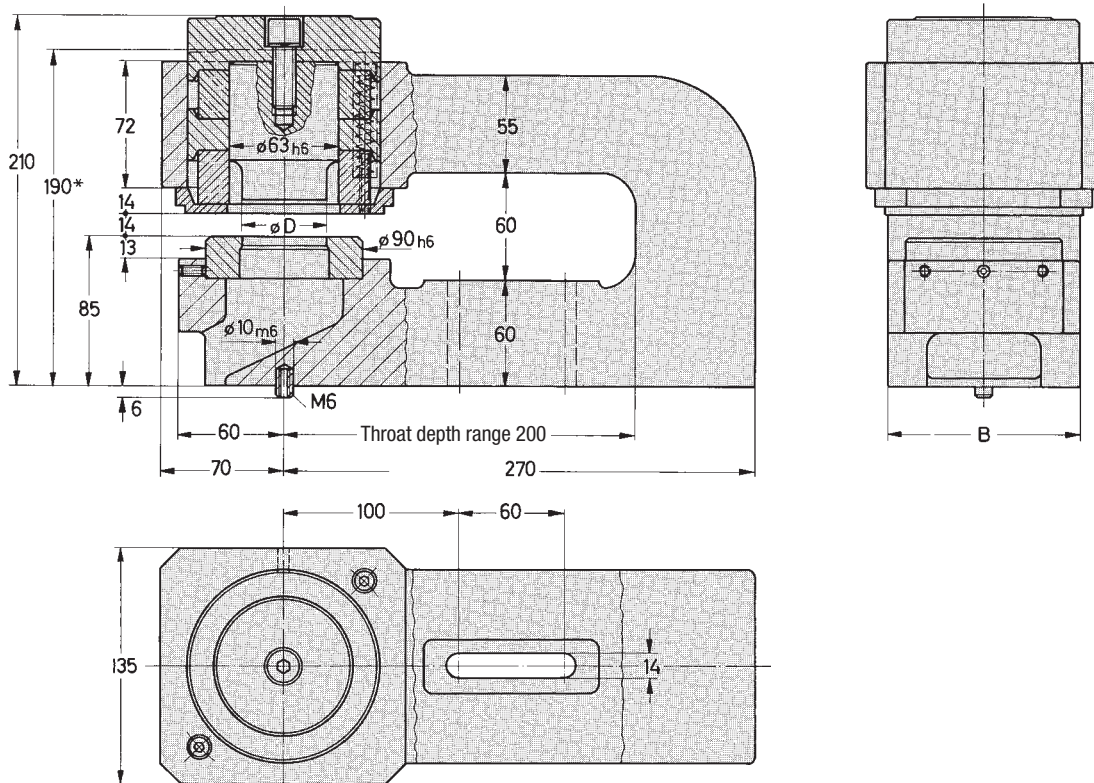
Punching unit without punching tools					Punching tools have to be ordered separately			
Order No.	Throat depth range	Hole \varnothing D	Width B	Weight ~ [kg]	Round punch 		Shaped punch 	
					Punch kit Order No.	Punch Order No.	Die Order No.	Punch kit Order No.
113-200 F	200	22–38	85	21	513- \varnothing -BL-ST	313- \varnothing	403- \varnothing -BL-ST	513-Formloch-BL-ST

Insert in Order No.: \varnothing = hole \varnothing , BL = material thickness, ST = material and strength. See also **punching tools**



Round and shaped cuts
Hole diameter 35–63 mm
Material thickness for steel St 60 2–10 mm

Punching tools (punch and die) have to be ordered separately. See table below.
Accessories See pages accessories.

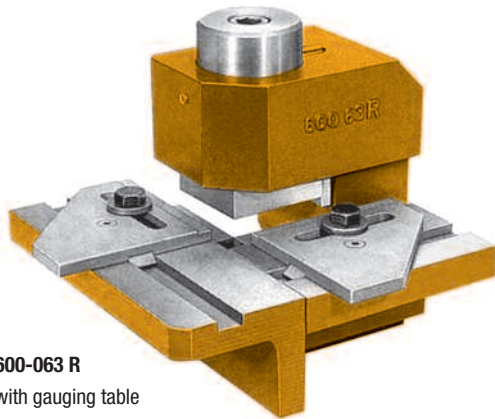


* Lower edge of punch and upper edge of die are flush

Punching unit without punching tools					Punching tools have to be ordered separately			
Order No.	Throat depth range	Hole \varnothing D	Width B	Weight ~ [kg]	Round punch		Shaped punch	
					Punch kit Order No.	Punch Order No.	Die Order No.	Punch kit Order No.
114-200 F	200	35–63	112	34	514- \varnothing -BL-ST	314- \varnothing	404- \varnothing -BL-ST	514-Formloch-BL-ST

Insert in Order No.: \varnothing = hole \varnothing , BL = material thickness, ST = material and strength. See also **punching tools**

90° notch units, notch size 63x63 mm



600-063 R
with gauging table
800-063S

Cutting angle 90°
Max. notch size 63x63 mm
Material thickness with steel St 60 0.3–8 mm

The **notch units**, adjusted to a die clearance of 0.1 mm, are pre-set in the factory for cutting material with a thickness of 0.3–3 mm. With the metal compensation sheets (0.2 mm) included in the delivery, the die clearance can be set to 0.2 or 0.3 mm for greater material thickness. With the adjustable **gauging table** the notch size can be adjusted continuously in two directions from 0–63 mm. The gauging table has to be ordered separately.

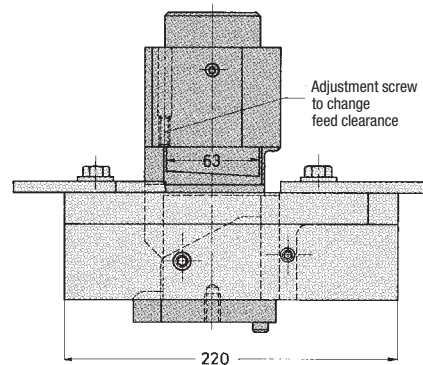
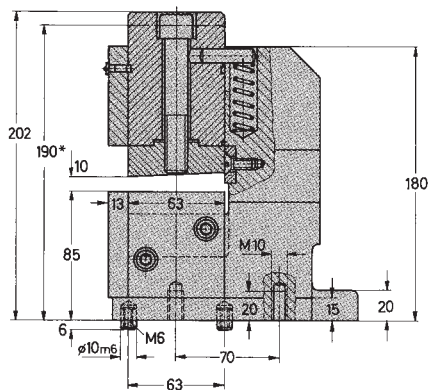
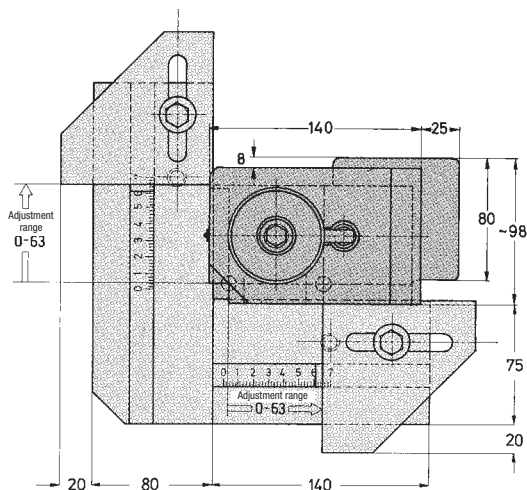
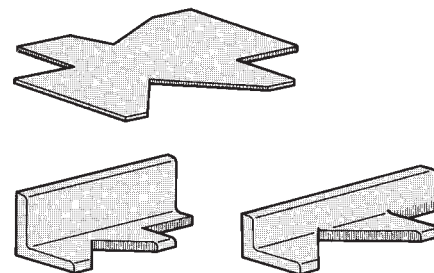


Figure shows 600-063 R with 800-063 S



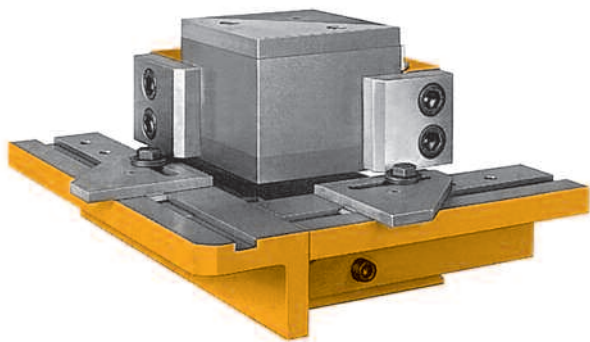
Notch examples



* Notch unit closed, upper blade inserted to full depth

90° notch units without gauging table with cutting tools			Gauging table (adjustable) has to be ordered separately		
Version		Weight	Appropriate for notch units		Weight
Left hand	Right hand	~			~
Order No.	Order No.	[kg]	Order No.	Order No.	[kg]
600-063 L	600-063 R	15	800-063 S	800-063 S	6.5

90° notch units, notch size 63x63 mm



600-125 R with gauging table 800-125 S

Cutting angle 90°
Max. notch size 125x125 mm
Material thickness with steel St 60 0.3–8 mm

The **notch units**, adjusted to a die clearance of 0.1 mm, are pre-set in the factory for cutting material with a thickness of 0.3–3 mm. With the metal compensation sheets (0.2 mm) included in the delivery, the die clearance can be set to 0.2 or 0.3 mm for greater material thickness. With the adjustable **gauging table** the notch size can be adjusted continuously in two directions from 0–125 mm. The gauging table has to be ordered separately.

Quotations for notch units with notch sizes 25x25 mm, 160x160 mm and 200x200 mm can be provided on request.

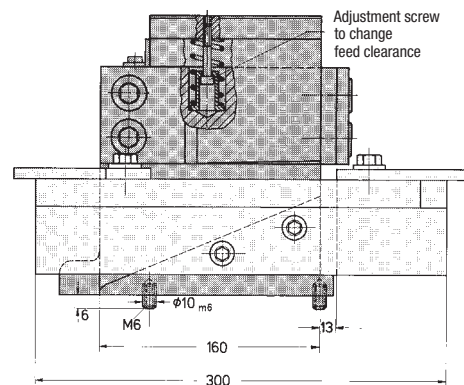
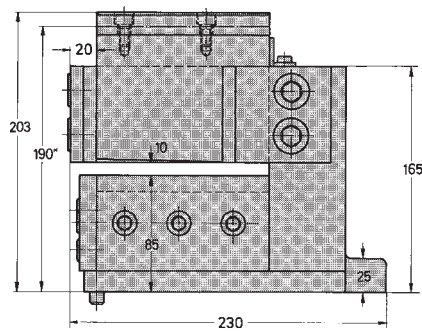
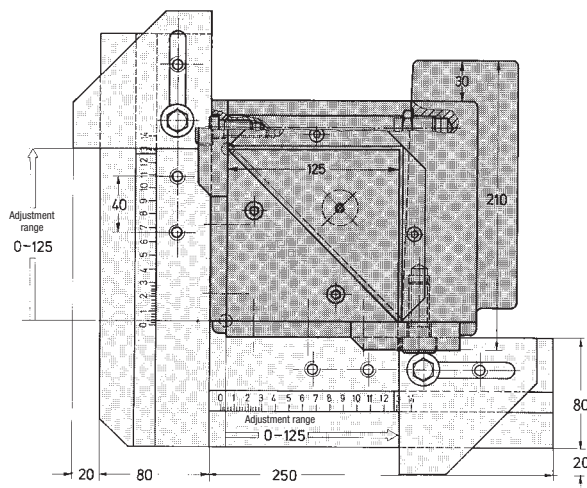
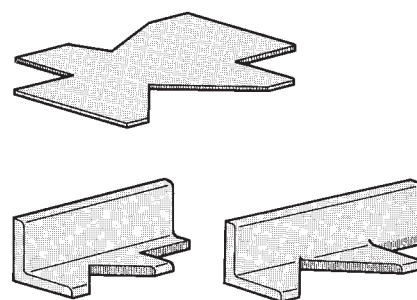




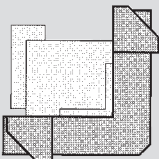
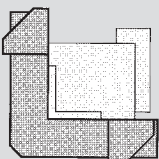
Figure shows 600-125 R with 800-125 S



Notch examples



* Notch unit closed, upper blade inserted to full depth

90° notch units without gauging table with cutting tools			Gauging table (adjustable) has to be ordered separately		
Version		Weight	Appropriate for notch units		Weight
Order No.	Order No.	[kg]	Order No.	Order No.	[kg]
 Left hand 600-125 L	 Right hand 600-125 R	~ 36	 600-125 L 600-125 R	 800-125 S	~ 5

Rectangle notch units 50x50 und 100x75 mm



601-050

Notch shape rectangle

Notch size

version 601-050 50x50 mm

version 601-100 100x75 mm

Material thickness with steel St 60 0.3–3 mm

The various possibilities for using these rectangle notch units are illustrated below.

The required die clearance is set in the factory in accordance with the material thickness indicated in the order.

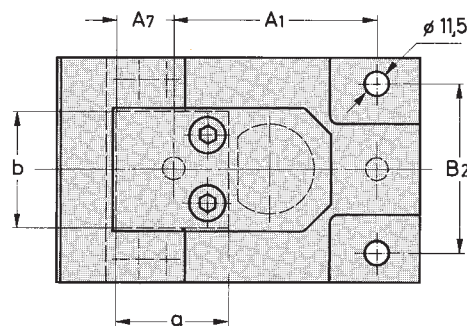
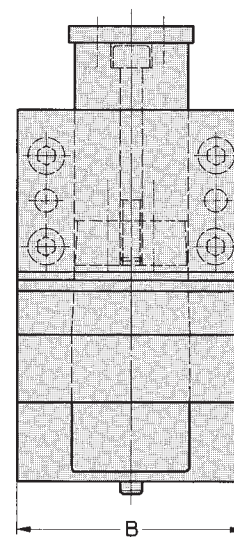
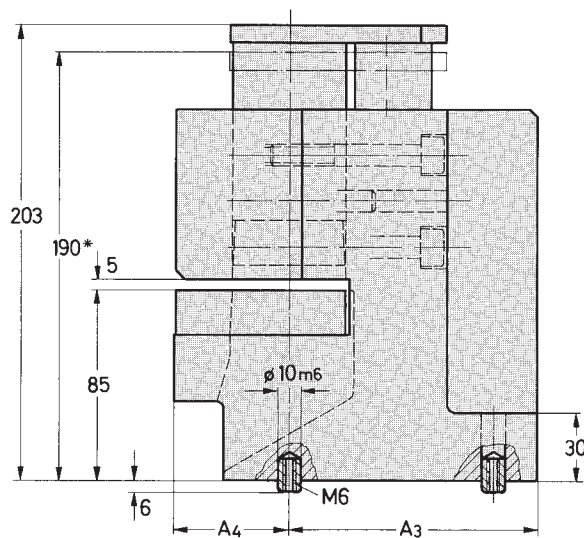


Figure shows 601-050

Possible notch and separation shapes available



* Notch unit closed, shaped punch inserted

Rectangle notch units with cutting tools	Notch size	a	b	A ₁	A ₃	A ₄	A ₇	B	B ₂	Weight ~ [kg]
Order No.	Width x depth									
601-050	50 x 50	50	50	90	110	50	25	100	75	16
601-100	100 x 75	75	100	100	120	75	37.5	150	100	27

Radius cut unit, R 3–20 mm

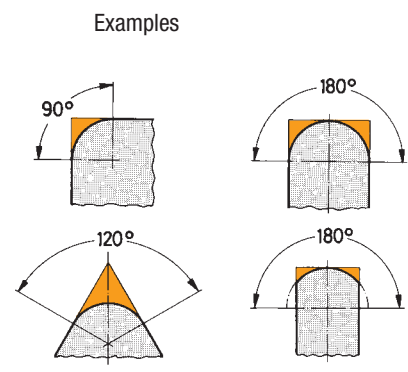
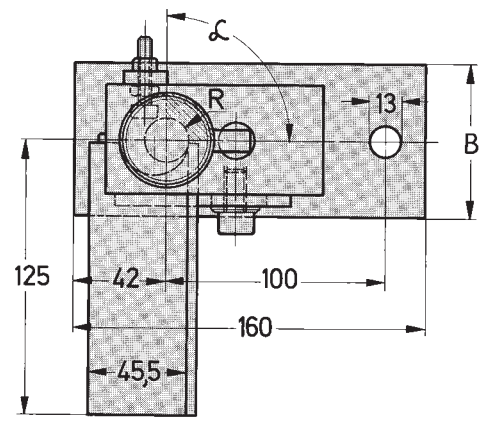
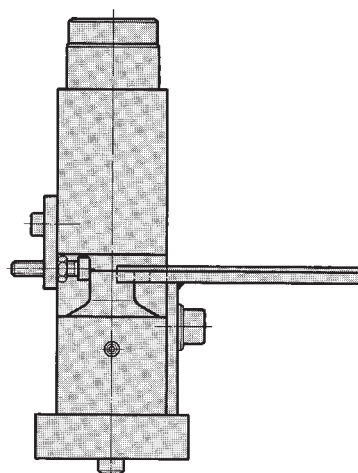
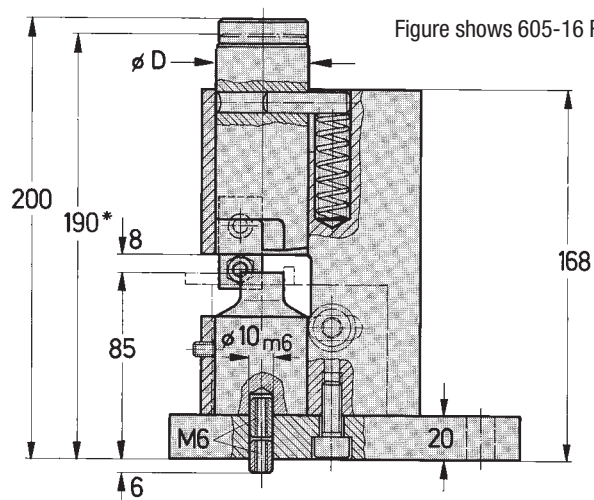


605-16 R

Possible radii R 3–20mm¹⁾
Cutting angle α , max. 180°
Material thickness for steel St 60, max. 6 mm

Order specifications for punch kit (please order separately)

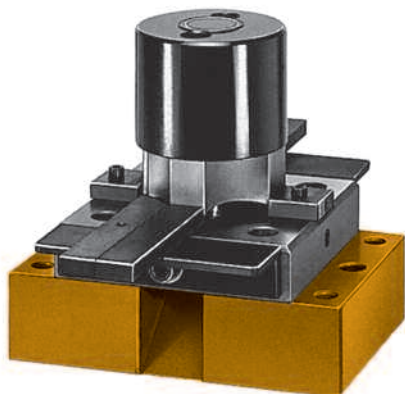
Version right hand or left hand	R oder L
Radius R	R _____ mm
Cutting angle α , (see examples)	_____ °
Material thickness	_____ mm
Material and strength	_____



* Radius cut unit closed, upper punch completely inserted

Radius cut units with gauging table, without cutting tools					Punch kit has to be ordered separately. Additional order specifications see above.		
Version		Radius cut sizes	B	$\varnothing D$	Weight ~	Corresponding to radius cut unit Version	
Left hand	Right hand					Left hand	Right hand
Order No.	Order No.				[kg]	Order No.	Order No.
605-16 L	605-16 R	R3-16	70	42	6.5	605-16-05 L	605-16-05 R
605-20 L	605-20 R	R3-20	70	50	7.5	605-20-05 L	605-20-05 R

Radius cut units, R 5–30 mm



Possible radii R 5, 10, 15, 20, 25, 30 mm

Cutting angle α , 90°

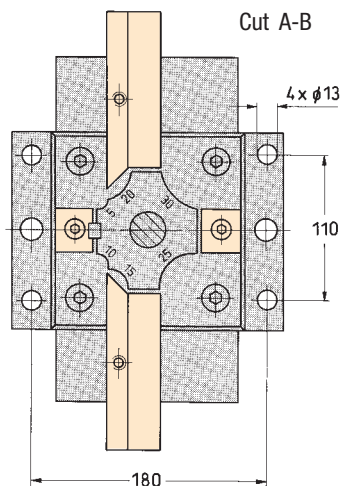
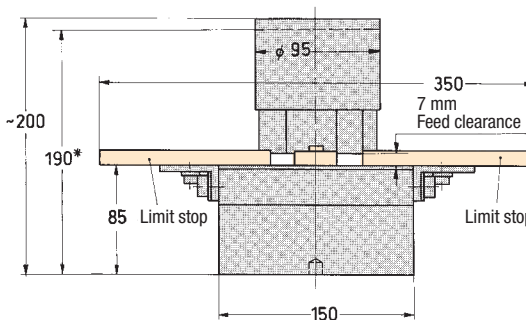
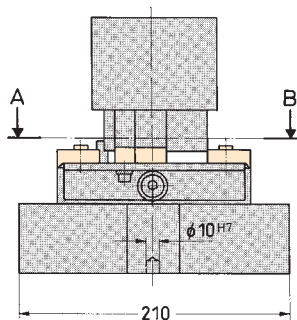
Material thickness for steel St 37, max. 5 mm

In addition to the pneumatic and hydraulic radius cut units, press-operated radius cut units are introduced on this page.

By adjusting the limit stops the radius tool unit enables the production of six different 90° radii with only one punching tool.

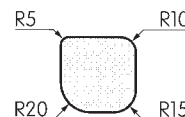
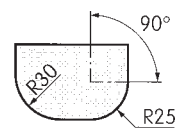
The graduation of the radii is divided into steps of 5 mm from R 5 mm up to R 30 mm.

Other radii are available on request.



= adjustable limit stops

Examples



* Radius cut unit closed, upper punch completely inserted

Radius cut unit with cutting tools		
Order No.	Possible radii R	Weight ~ [kg]
606-30	5,10,15 20,25,30	22

Note:

Please state preferred material quality and thickness when ordering

Cut-off units, cutting width 125 und 250 mm



610-125-N

Cutting width, max.

version 610-125-N **125 mm**

version 610-250-N **250 mm**

Material thickness with steel St 60 0.3–8 mm

The **cut-off units**, adjusted to a die clearance of 0.1 mm, are pre-set in the factory for cutting material with a thickness of 0.3–3 mm. With the metal compensation sheets (0.2 mm) included in the delivery, the die clearance can be set to 0.2 or 0.3 mm for greater material thickness.

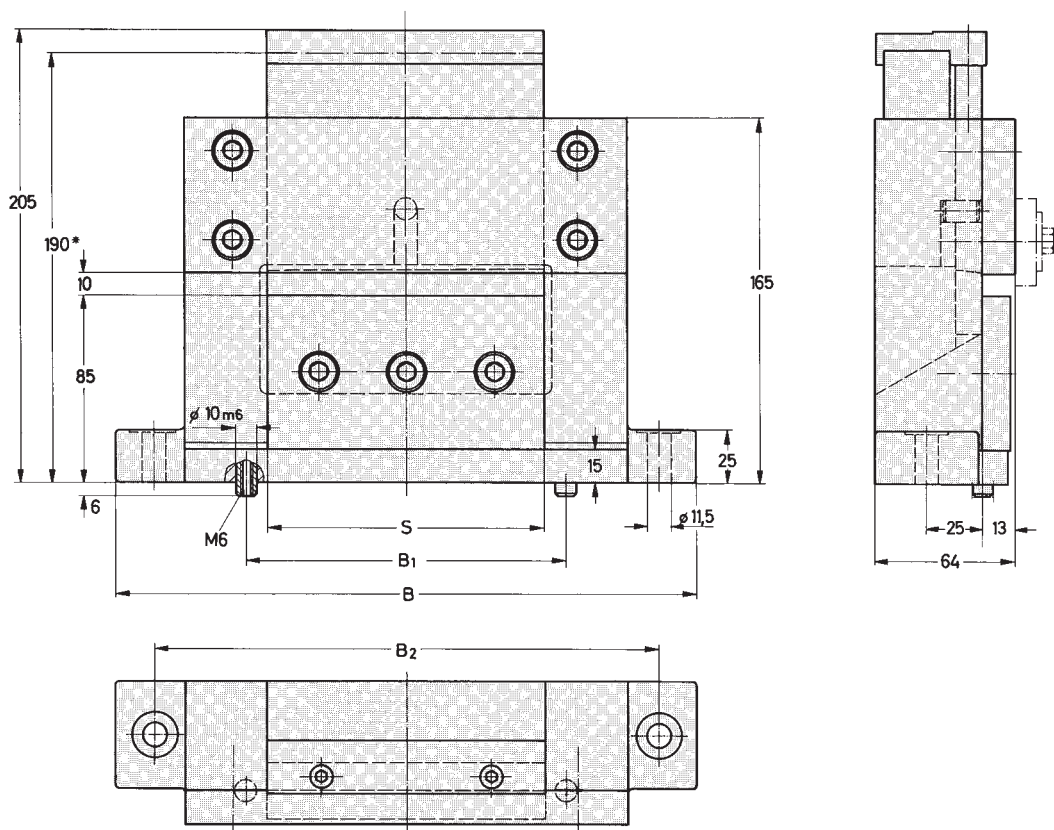


Figure shows cut-off unit 610-125-N

* Cut-off unit closed, upper blade inserted to full depth

Cut-off units with cutting tools and retainer	Cutting width S	Total width B	B ₁	B ₂	Weight ~
Order No.					[kg]
610-125-N	125	266	150	230	15
610-250-N	250	412	250	380	26

Cut-off units with larger cutting widths (e.g. 350, 400, 500 mm) are available on request.



624-2080

These pneumatic table presses have been designed for use with a press-operated punching, notch or cut-off unit.

One advantage of these table presses is their mobility, i.e. they can be used at any location. By using additional exchange plates, it is possible to mount the tool units outside of the press.

As a result, the tool units can be inserted or removed quickly and easily.

The material support height is **135 mm** with exchange plate, **125 mm** without exchange plate.

The cutting force required determines the usage limit for the table press, see the cutting force chart.

The cutting force, which results from the hole diameter, the material thickness and the material strength, may not exceed the maximum cylinder force.

Suitable tool units²⁾



Punching units
100 – 104



Notch units
600-063 L/R
601-050

+

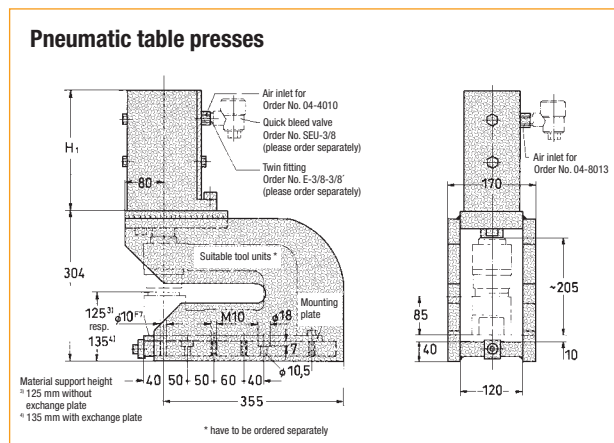
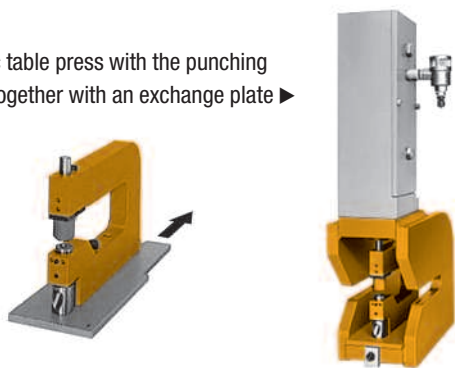
+



Exchange plate has to be ordered separately

²⁾ Further combinations of tool units with pneumatic table presses are available on request.

Example of a pneumatic table press with the punching unit inserted, together with an exchange plate ▶



Pneumatic	Pneumatic table presses					Exchange plate has to be ordered separately for				
	Max. force		Cylinder type	Flange type	H ₁	Weight	Punching units,	Notch units,	Cut-off units,	Weight
	with air supply pressure of 8 bar [kN]	with oil supply pressure of 350 bar [kN]								
Order No.			Order No.	Order No.	[kg]	Order No.	Order No.	Order No.	[kg]	
624-2040	40	–	04-4010	–	234	76	816-120-350L	816-120-350K	816-120-350A	3
624-2080	80	–	04-8013	–	405	94				



626-2109

These hydraulic table presses have been designed for use with a press-operated punching, notch or cut-off unit.

One advantage of these table presses is their mobility, i.e. they can be used at any location. By using additional exchange plates, it is possible to mount the tool units outside of the press.

As a result, the tool units can be inserted or removed quickly and easily.

The material support height is **135 mm** with exchange plate, **125 mm** without exchange plate.

The cutting force, which results from the hole diameter, the material thickness and the material strength, may not exceed the maximum cylinder force.

Suitable tool units²⁾



Punching units
100 – 104



Notch units
600-063 L/R
601-050

+

+



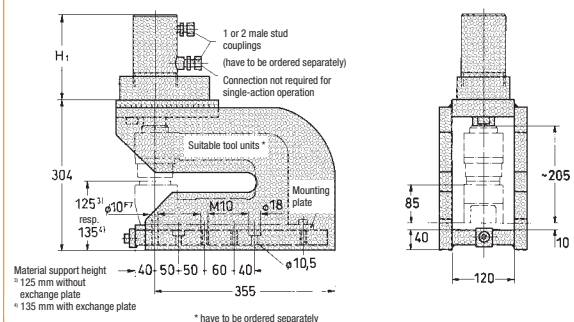
Exchange plate has to be ordered separately

²⁾ Further combinations of tool units with hydraulic table presses are available on request.

Example of a hydraulic table press with the punching unit inserted, together with an exchange plate ▶

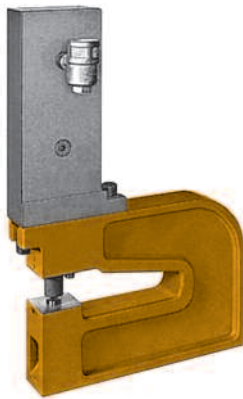


Hydraulic table presses

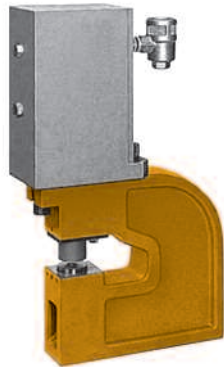


Hydraulic double-action	Hydraulic table presses					Exchange plate has to be ordered separately for		
	Max. force with oil supply pressure of 350 bar [kN]	Cylinder type	Flange type	H ₁ ~	Weight ~ [kg]	Punching units,	Notch units,	Weight ~
Order No.		Order No.	Order No.			Order No.	Order No.	[kg]
626-2068	68	725D50151-1	F004-A011-0000	154	55	816-120-350L	816-120-350K	3
626-2109	109	725D63171-1	F004-0023-0000	169	62			

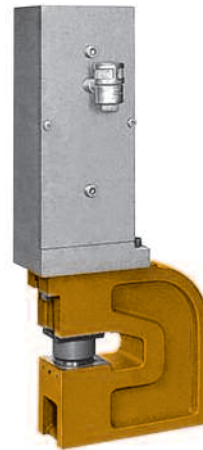
Examples



141-2020
Cylinder force 20 kN
Throat depth range A=200 mm



142-1040 F
Cylinder force 40 kN
Throat depth range A=100 mm

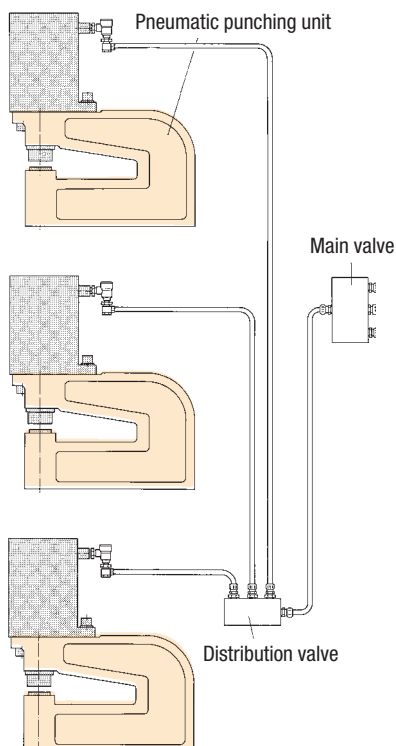


143-1080 F
Cylinder force 80 kN
Throat depth range A=100 mm




144-1080 F
Cylinder force 80 kN
Throat depth range A=100 mm

Connection examples for several punching units



Driven by pneumatic power cylinder, single-action

Round and shaped cut	
Hole diameter	for series 141 2–13 mm
	for series 142 8–25 mm
	for series 143 25–40 mm

Only round cut		Shaped cut on request
for series 144		40–63 mm

Material thickness	
with steel	0.3–3 mm*
with aluminium and plastics	0.3–5 mm*

* The cylinder force has to exceed the required cutting force.

Pneumatic punching units can be used independently from a press, as they are driven by the powerful pneumatic power cylinder and only need compressed air as a power source.

The pneumatic power cylinders are single-action; for optimum fast reversal, they additionally require a 3/2 way valve, as well as a quick bleed valve; see also the illustrated connection examples.

The material support height is **125 mm**.

The punching units should be selected according to the punch diameter, material thickness, material strength and the resulting cutting force required.

The different cylinder sizes are interchangeable, as they have the same mounting dimensions. If the cutting force is insufficient the next more powerful cylinder can be used. Double-action hydraulic cylinders, including the mounting flange, can be retrofitted.

The best application for pneumatic punching units is punch work with thin metal sheets up to 3 mm thickness because of their progressive characteristic feature.

With an air supply pressure of maximum 8 bar the cylinder force achieves capacities of 12, 20, 40 or 80 kN depending on the cylinder type.

An obligatory stripping unit can be implemented on request.

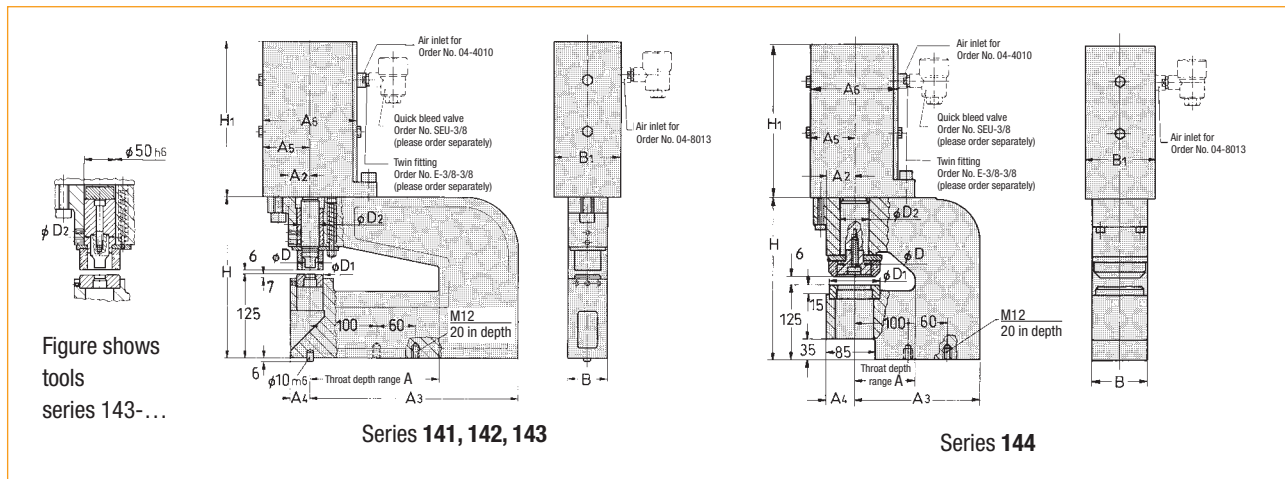
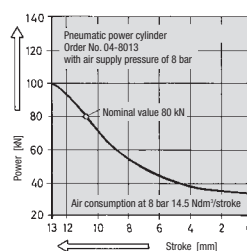
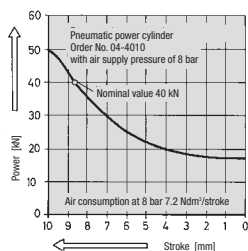
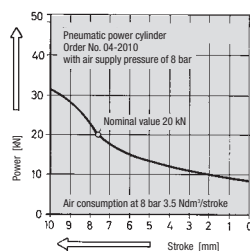


Figure shows tools series 143-...

Order No.	Throat depth range A	Hole diameter D	Max. force at 8 bar [kN]	A ₂	A ₃	A ₄	A ₅	A ₆	B	B ₁	D ₁	D ₂	H	H ₁	Cylinder type Order No.	Weight ~ [kg]
141-1012F	100	2-13	15	30	220	30	65	110	60	50	22	15	244	228	04-1212	22
141-1020F	100	2-13	20	30	220	30	61	122	60	65	22	15	244	300	04-2010	28
141-1040F	100	2-13	40	30	220	30	72	144	60	108	22	15	244	234	04-4010	33
141-1080F	100	2-13	80	30	220	30	77	154	60	122	22	15	244	405	04-8013	53
141-2012F	200	2-13	15	30	320	30	65	110	60	50	22	15	244	228	04-1212	28
141-2020F	200	2-13	20	30	320	30	61	122	60	65	22	15	244	300	04-2010	34
141-2040F	200	2-13	40	30	320	30	72	144	60	108	22	15	244	234	04-4010	39
141-2080F	200	2-13	80	30	320	30	77	154	60	122	22	15	244	405	04-8013	59
142-1012F	100	8-25 ¹⁾	15	30	220	30	65	110	60	50	42	28	244	228	04-1212	22
142-1020F	100	8-25 ¹⁾	20	30	220	30	61	122	60	65	42	28	244	300	04-2010	28
142-1040F	100	8-25 ¹⁾	40	30	220	30	72	144	60	108	42	28	244	234	04-4010	33
142-1080F	100	8-25 ¹⁾	80	30	220	30	77	154	60	122	42	28	244	405	04-8013	53
142-2012F	200	8-25 ¹⁾	15	30	320	30	65	110	60	50	42	28	244	228	04-1212	28
142-2020F	200	8-25 ¹⁾	20	30	320	30	61	122	60	65	42	28	244	300	04-2010	34
142-2040F	200	8-25 ¹⁾	40	30	320	30	72	144	60	108	42	28	244	234	04-4010	39
142-2080F	200	8-25 ¹⁾	80	30	320	30	77	154	60	122	42	28	244	405	04-8013	59
143-1040F	100	25-40 ²⁾	40	45	220	40	72	144	90	108	63	30	265	234	04-4010	46
143-1080F	100	25-40 ²⁾	80	45	220	40	77	154	90	122	63	30	265	405	04-8013	66
143-2040F	200	25-40 ²⁾	40	45	340	40	72	144	90	108	63	30	265	234	04-4010	59
143-2080F	200	25-40 ²⁾	80	45	340	40	77	154	90	122	63	30	265	405	04-8013	79
144-1040F	100	40-63	40	48	220	50	72	144	100	108	90	50	270	234	04-4010	60
144-1080F	100	40-63	80	48	220	50	77	154	100	122	90	50	270	405	04-8013	85
144-2040F	200	40-63	40	48	320	50	72	144	100	108	90	50	270	234	04-4010	79
144-2080F	200	40-63	80	48	320	50	77	154	100	122	90	50	270	405	04-8013	102



Punching tools suitable for the punching units above

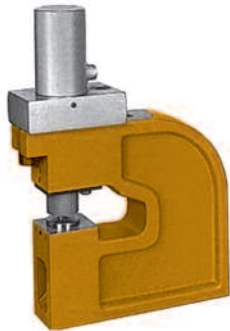
Punching unit without punching tools		Punching tools have to be ordered separately			
Order No.	Hole diameter meter range ØD	Punch kit	Round punch	Die	Shaped punch
141-.... F	2-13	501-Ø-BL-ST	301-Ø	401-Ø-BL-ST	501-Formloch-BL-ST
142-.... F	8-25 ¹⁾	502-Ø-BL-ST	302-Ø	402-Ø-BL-ST	502-Formloch-BL-ST
143-.... F	25-40 ²⁾	503-Ø-BL-ST	303-Ø	403-Ø-BL-ST	503-Formloch-BL-ST
144-.... F	40-63	524-Ø-BL-ST	324-Ø	404-Ø-BL-ST	on request

Insert in Order No.: Ø = hole Ø or »Formloch« (i.e. shaped hole), BL = material thickness, ST = material and strength. See also **punching tools**

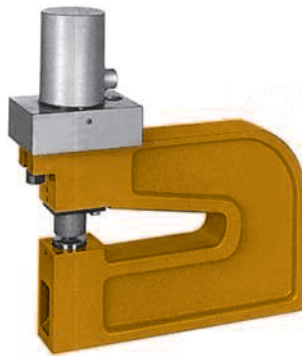
¹⁾ To punch hole diameters from 2-8 mm, you also have to order reduction bushes and reduction sockets.

²⁾ Punching tools for Ø 20-25 mm are available on request.

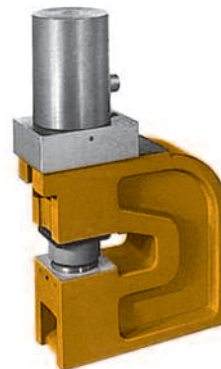
Examples



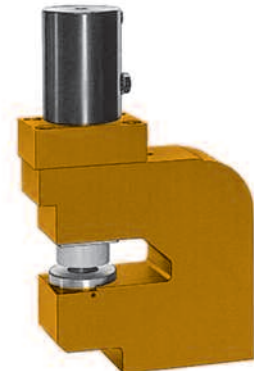
162-1068 F
Cylinder force 68 kN
Throat depth range A=100 mm



162-2068 F
Cylinder force 68 kN
Throat depth range A=200 mm



163-1175 F
Cylinder force 175 kN
Throat depth range A=100 mm



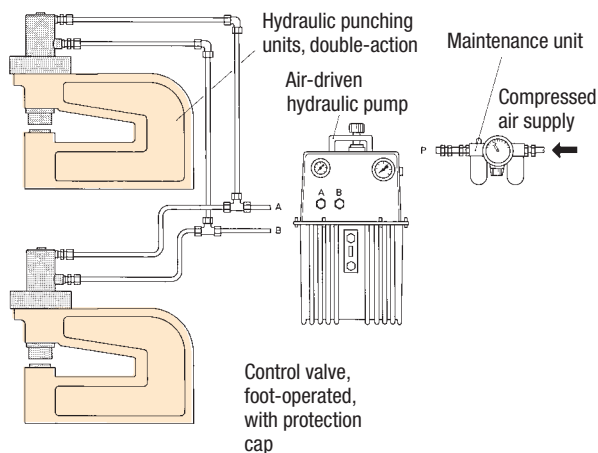
164-1175 F
Cylinder force 175 kN
Throat depth range A=100 mm

Connection examples

for one or several punching units

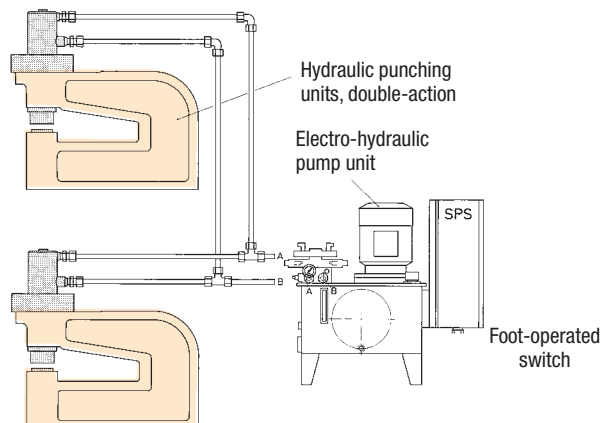
Power supply

Air-driven hydraulic pump



Power supply

Electro-hydraulic pump unit



Driven by
hydraulic cylinder, double-action

Round and shaped cut	
Hole diameter	for series 161 2–13 mm
	for series 162 8–25 mm
	for series 163 25–40 mm

Only round cut Shaped cut on request
for series 164 40–63 mm

Material thickness

with steel 0.3–3 mm*; max. 5 mm*
with aluminium and plastics 0.3–5 mm*

* The cylinder force has to exceed the required cutting force.

Hydraulic punching units, fit with double-action hydraulic cylinders are capable of working independently from a press. They are driven by a hydraulic power supply, e.g. an air-driven hydraulic pump, or an electro-hydraulic pump unit.

With the available hydraulic cylinders, cylinder forces of 33, 68, 109 or 175 kN can be achieved for an oil supply pressure of max. 350 bar.

The material support height is **125 mm**.

The punching units should be selected according to the hole diameter, material thickness, material strength and the resulting cutting force required. The cutting force required can be obtained from the chart.

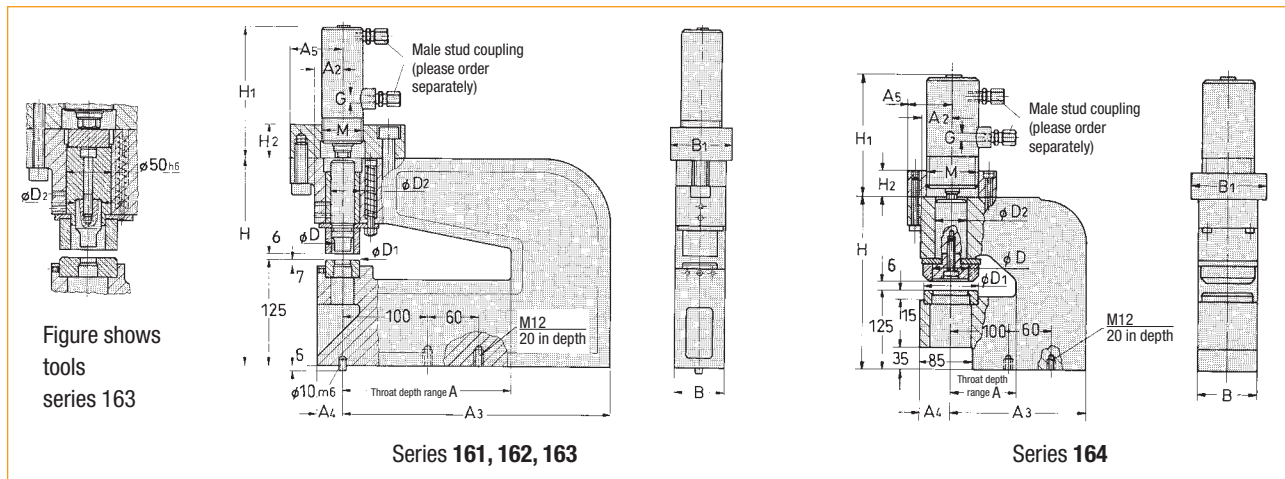
The type of power supply also depends on the number of punching units in operation and the desired cycle time.

The connection examples on the left illustrate the operation of one or several hydraulic punching units.

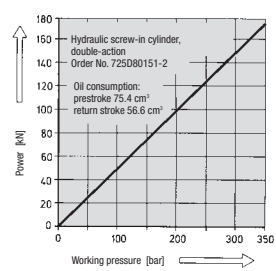
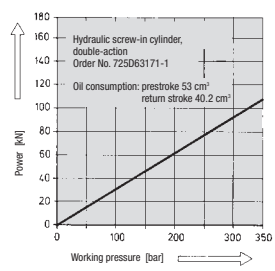
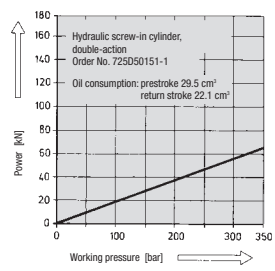
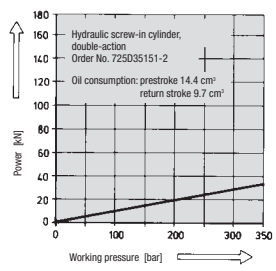
The mounting flanges of the hydraulic cylinders have the same mounting dimensions. As a result the cylinder size, including the mounting flange, can be exchanged if the cutting force is insufficient.

Hydraulic punching units, double-action

An obligatory stripping unit can be implemented on request.



Order No.	Throat depth range	Hole diameter D	Max. force at 350 bar [kN]	A ₂	A ₃	A ₄	A ₅	B	B ₁	D ₁	D ₂	H	H ₁	H ₂	M	G	Cylinder type including flange ⁹⁾ Order No.	Weight ~ [kg]
161-1033 F	100	2-13	33	30	220	30	58	60	60	22	15	244	165	40	M48x1,5	G1/4	725D35151-FL	21
161-1068 F	100	2-13	68	30	220	30	60	60	80	22	15	244	151	40	M64x1,5	G1/4	725D50151-FL	23
161-1109 F	100	2-13	109	30	220	30	66	60	100	22	15	244	158	48	M80x2,0	G1/4	725D63171-FL	26
161-2033 F	200	2-13	33	30	320	30	58	60	60	22	15	244	165	40	M48x1,5	G1/4	725D35151-FL	27
161-2068 F	200	2-13	68	30	320	30	60	60	80	22	15	244	151	40	M64x1,5	G1/4	725D50151-FL	29
162-1033 F	100	8-25 ¹⁾	33	30	220	30	58	60	60	42	28	244	165	40	M48x1,5	G1/4	725D35151-FL	21
162-1068 F	100	8-25 ¹⁾	68	30	220	30	60	60	80	42	28	244	151	40	M64x1,5	G1/4	725D50151-FL	23
162-1109 F	100	8-25 ¹⁾	109	30	220	30	66	60	100	42	28	244	158	48	M80x2,0	G1/4	725D63171-FL	26
162-2033 F	200	8-25 ¹⁾	33	30	320	30	58	60	60	42	28	244	165	40	M48x1,5	G1/4	725D35151-FL	27
162-2068 F	200	8-25 ¹⁾	68	30	320	30	60	60	80	42	28	244	151	40	M64x1,5	G1/4	725D50151-FL	29
163-1033 F	100	25-40 ²⁾	33	45	220	40	58	90	60	63	30	265	170	40	M48x1,5	G1/4	725D35151-FL	34
163-1068 F	100	25-40 ²⁾	68	45	220	40	60	90	80	63	30	265	156	40	M64x1,5	G1/4	725D50151-FL	36
163-1109 F	100	25-40 ²⁾	109	45	220	40	66	90	100	63	30	265	161	48	M80x2,0	G1/4	725D63171-FL	39
163-1175 F	100	25-40 ²⁾	175	45	220	40	66	90	105	63	30	265	195	48	M80x2,0	G3/8	725D80151-FL	45
163-2033 F	200	25-40 ²⁾	33	45	340	40	58	90	60	63	30	265	170	40	M48x1,5	G1/4	725D35151-FL	47
163-2068 F	200	25-40 ²⁾	68	45	340	40	58	90	80	63	30	265	156	40	M64x1,5	G1/4	725D50151-FL	49
163-2109 F	200	25-40 ²⁾	109	45	340	40	66	90	100	63	30	265	161	48	M80x2,0	G1/4	725D63171-FL	52
164-1109 F	100	40-63	109	48	220	48	58	100	100	90	50	270	169	48	M80x2,0	G1/4	725D63171-FL	49
164-1175 F	100	40-63	175	48	220	48	66	100	105	90	50	270	195	48	M80x2,0	G3/8	725D80151-FL	55
164-2109 F	200	40-63	109	48	320	48	58	100	100	90	50	270	169	48	M80x2,0	G1/4	725D63171-FL	68
164-2175 F	200	40-63	175	48	320	48	66	100	105	90	50	270	195	48	M80x2,0	G3/8	725D80151-FL	73



Punching tools suitable for the punching units above

Punching unit without punching tools	Hole diameter meter range	Punching tools have to be ordered separately			
		Punch kit	Round punch	Die	Shaped punch
Order No.	ØD	Order No.	Order No.	Order No.	Order No.
161-.... F	2-13	501-Ø-BL-ST	301-Ø	401-Ø-BL-ST	501-Formloch-BL-ST
162-.... F	8-25 ¹⁾	502-Ø-BL-ST	302-Ø	402-Ø-BL-ST	502-Formloch-BL-ST
163-.... F	25-40 ²⁾	503-Ø-BL-ST	303-Ø	403-Ø-BL-ST	503-Formloch-BL-ST
164-.... F	40-63	524-Ø-BL-ST	324-Ø	404-Ø-BL-ST	on request

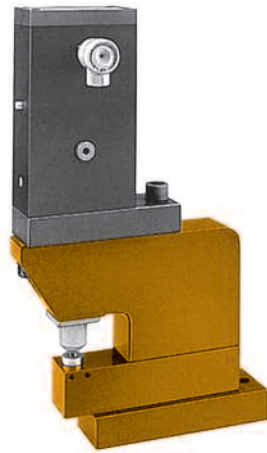
¹⁾To punch hole diameters from 2-8 mm, you also have to order reduction bushes and reduction sockets.

²⁾Punching tools for Ø 20-25 mm are available on request.

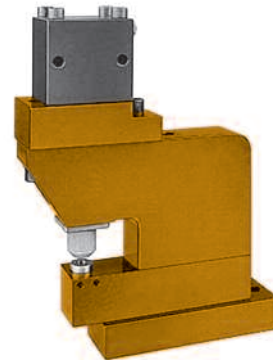
⁹⁾If you require the cylinder without the mounting flange, omit the letters »FL« in the order no..

Insert in Order No.: Ø = hole Ø or »Formloch« (i.e. shaped hole), BL = material thickness, ST = material and strength. See also **punching tools**

Examples

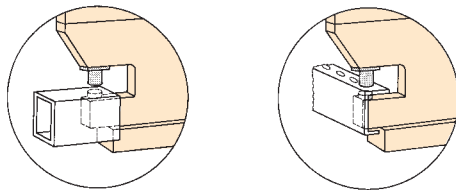


141-0520 F
Cylinder force 20 kN




161-0524 F
Cylinder force 24 kN

Application examples



Driven by
pneumatic power cylinder, single-action,
hydraulic cylinder, double-action

Round and shaped cut	
Hole diameter	2–13 mm
Material thickness	
with steel	0.3–3 mm*
with aluminium and plastics	0.3–5 mm*

* The cylinder force has to exceed the required cutting force.

These pneumatic and hydraulic profile punching units are suitable for a wide range of applications. The special die support at the front enables punching of round and square pipes or the shanks of U and H profiles arranged in parallel.

Which available unit to use is determined by the required cutting force. The cutting force results from the hole diameter, material thickness and material strength. Refer to the cutting force chart.

The type of power supply also depends on the number of punching units to be operated and the desired cycle time.

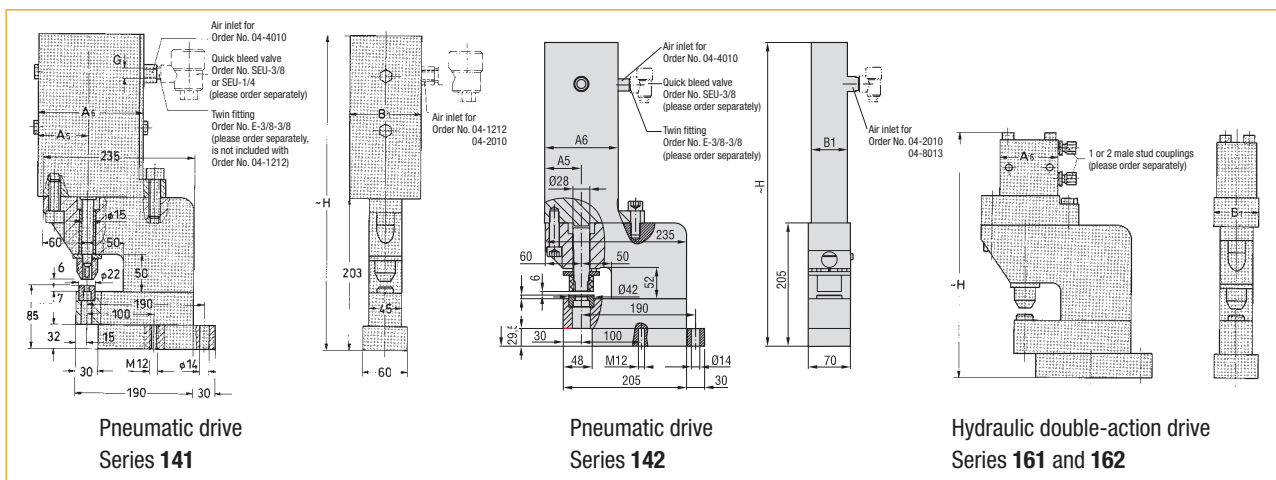
The pneumatic power cylinders are single-action and, in addition, require a quick bleed valve for quick reversal.

The material support height is **85 mm**.

A height compensation plate for a material support height of 125 mm is available on request.

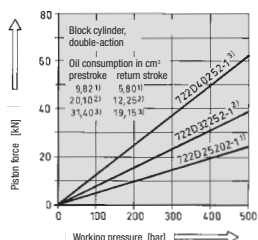
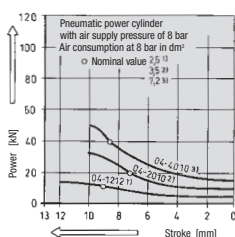
Pneumatic and hydraulic profile punching units, single- and double-action

An obligatory stripping unit can be implemented on request.



Profile punching units without punching tools		Throat depth range	hole Ø	Max. force		Cylinder type combination of cylinder and flange	A ₅	A ₆	B ₁	G	H	Weight ~ [kg]
pneumatic	hydraulic, double-action			with air supply pressure of 8 bar [kN]	with oil supply pressure of 500 bar [kN]							
Order No.	Order No.	A	D			Order No.						
141-0512 F	-	50	2-13	12	-	04-1212	55	110	60	1xG 1/4	431	19
141-0520 F	-	50	2-13	20	-	04-2010	61	122	60	1xG 3/8	504	24
141-0540 F	-	50	2-13	40	-	04-4010	72	144	108	1xG 3/8	438	31
142-0520 F	-	50	8-25	12	-	04-2010	61	122	60	1xG 3/8	505	31
142-0540 F	-	50	8-25	20	-	04-4010	72	144	108	1xG 3/8	439	37
142-0580 F	-	50	8-25	40	-	04-8013	77	154	122	1xG 3/8	610	39
-	161-0524 F	50	2-13	-	24	722D25202-FL ⁴⁾	-	65	45	2xG 1/4	333	14
-	161-0540 F	50	2-13	-	40	722D32252-FL ⁴⁾	-	75	60	2xG 1/4	344	15
-	161-0563 F	50	2-13	-	63	722D40252-FL ⁴⁾	-	85	70	2xG 1/4	348	16
-	162-0524 F	50	8-25	-	24	722D25202-FL ⁴⁾	-	65	45	2xG 1/4	325	21
-	162-0540 F	50	8-25	-	40	722D32252-FL ⁴⁾	-	75	60	2xG 1/4	342	22
-	162-0563 F	50	8-25	-	63	722D40252-FL ⁴⁾	-	85	70	2xG 1/4	343	23

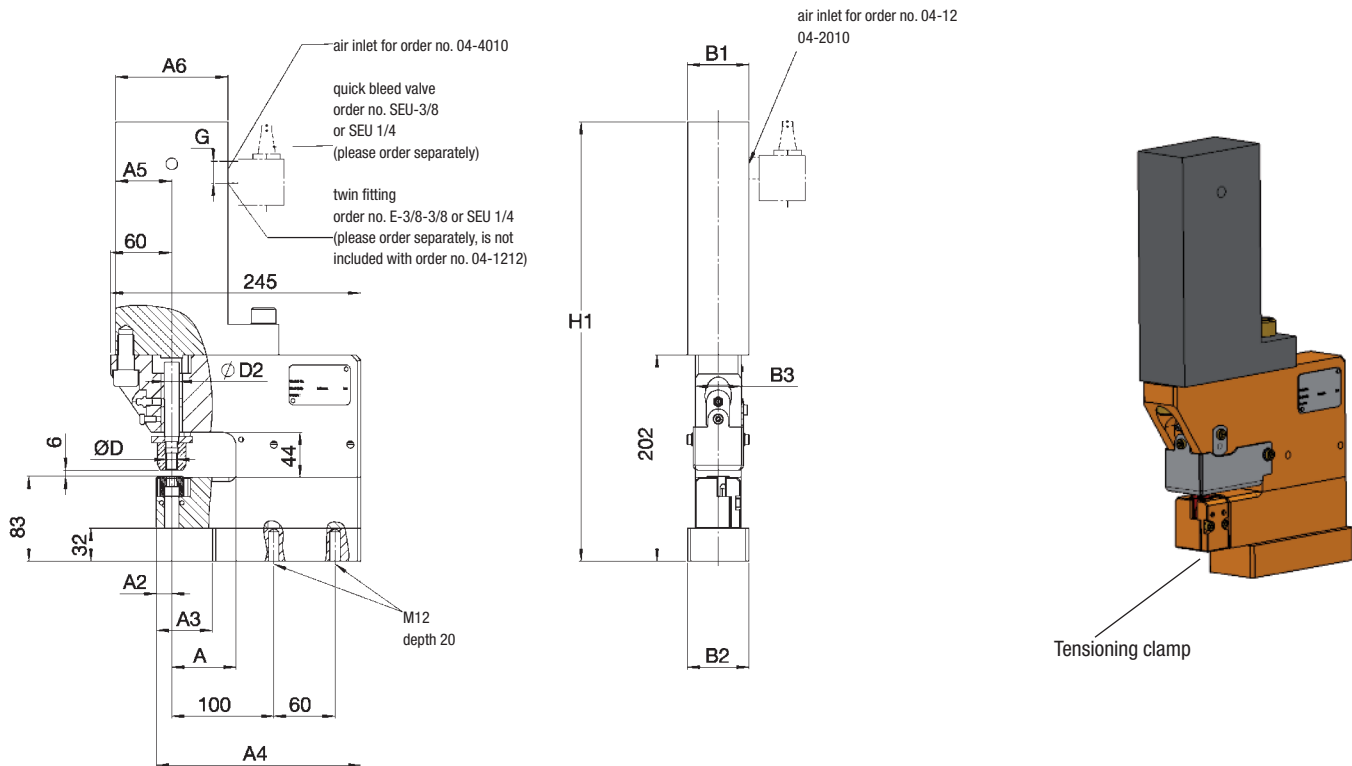
⁴⁾ If you require the cylinder without the mounting flange, omit the letters »FL« in the Order No.



Punching tools suitable for the punching units above

Punching unit without punching tools		Punching tools have to be ordered separately			
Order No.	Hole diameter meter range ØD	Round punch ●		Shaped punch ■■■■	
		Punch kit	Punch	Die	Punch kit
Order No.	ØD	Order No.	Order No.	Order No.	Order No.
141-.... F	2-13	501-Ø-BL-ST	301-Ø	401-Ø-BL-ST	501-Formloch-BL-ST
161-.... F	2-13	501-Ø-BL-ST	301-Ø	401-Ø-BL-ST	501-Formloch-BL-ST
142-.... F	8-25	502-Ø-BL-ST	302-Ø	402-Ø-BL-ST	502-Formloch-BL-ST
162-.... F	8-25	502-Ø-BL-ST	302-Ø	402-Ø-BL-ST	502-Formloch-BL-ST

Insert in Order No.: Ø = hole Ø or »Formloch« (i.e. shaped hole), BL = material thickness, ST = material and strength. See also **punching tools**



Pneumatic profile punching units, single-action – without punching tools

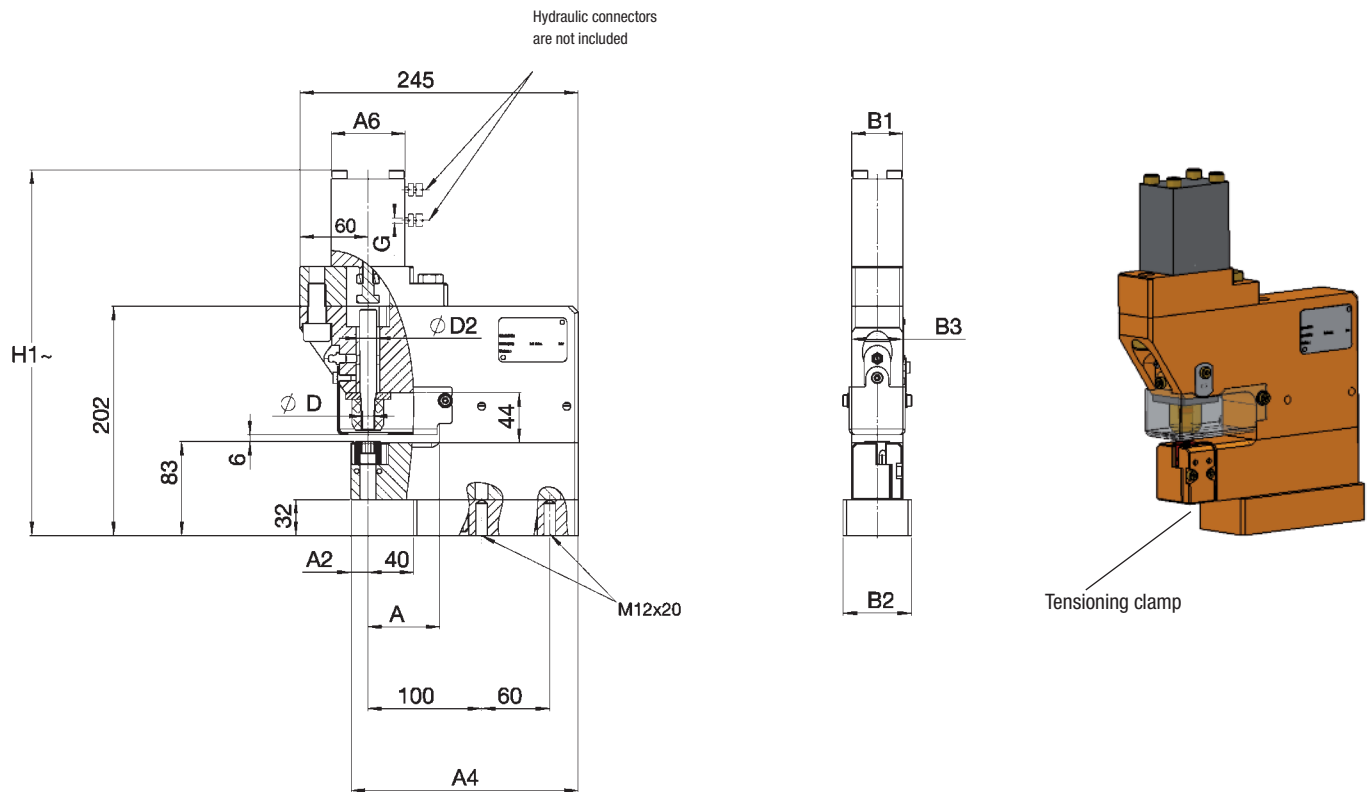
Order no.	Hole ØD	Throat depth range A	Max. force with air supply pressure of 8 bar [kN]	Cylinder type ⁹⁾ Order no.	ØD2	A2	A3	A4	A5	A6	B1	B2	B3	G	H1	Weight ~ [kg]
141-0712F-01	2-13	63	12	04-1212	15	15	55	200	55	110	60	54	45	1xG1/4	430	19
141-0720F-01	2-13	63	20	04-2010	15	15	55	200	60	120	60	54	45	1xG3/8	502	24
141-0740F-01	2-13	63	40	04-4010	15	15	55	200	72	147	108	54	45	1xG3/8	436	30
142-0720F-01	8-25	63	12	04-2010	28	26	66	211	60	120	60	70	70	1xG3/8	502	32
142-0740F-01	8-25	63	20	04-4010	28	26	66	211	72	147	108	70	70	1xG3/8	436	37
142-0780F-01	8-25	63	40	04-8013	28	26	66	211	77	154	122	70	70	1xG3/8	607	59

⁹⁾An obligatory stripping unit can be implemented on request. Order example: 141Z-07...

Punching tools suitable for the punching units above

Punching unit without punching tools		Punching tools have to be ordered separately			
Order no.	Hole-Ø diameter range ØD	Round punch ●			Shaped ●●●●
		Punch kit Order no.	Punch Order no.	Die Order no.	Punch kit Order no.
141-.... F	2-13	501-Ø-BL-ST	301-Ø	401-Ø-BL-ST	501-shaped-hole-BL-ST
142-.... F	8-25	502-Ø-BL-ST	302-Ø	402-Ø-BL-ST	502-shaped-hole-BL-ST

Insert in Order No.: Ø = hole Ø or »Formloch« (i.e. shaped hole), BL = material thickness, ST = material and strength. See also **punching tools**



Hydraulic profile punching units, double action — without punching tools

Order no.	Hole ØD	Throat depth range A	Max. force with air supply pressure of 500 bar [kN]	Cylinder type ⁴⁾ Order no.	ØD2	A2	A4	A6	B1	B2	B3	G	H1	Weight ~ [kg]
161-0724F-01	2-13	63	24	722D25202-FL ⁴⁾	15	15	200	65	45	60	45	2xG1/4	322	16
161-0740F-01	2-13	63	40	722D32252-FL ⁴⁾	15	15	200	75	55	60	45	2xG1/4	339	18
161-0763F-01	2-13	63	63	722D40252-FL ⁴⁾	15	15	200	85	63	60	45	2xG1/4	340	19
162-0724F-01	8-25	63	24	722D25202-FL ⁴⁾	28	26	211	65	45	70	70	2xG1/4	317	24
162-0740F-01	8-25	63	40	722D32252-FL ⁴⁾	28	26	211	75	55	70	70	2xG1/4	339	25
162-0763F-01	8-25	63	63	722D40252-FL ⁴⁾	28	26	211	85	63	70	70	2xG1/4	340	26

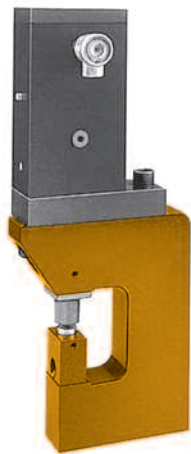
4) If you require the cylinder without the mounting flange, omit the letters »FL« in the order no. | An obligatory stripping unit can be implemented on request. Order example: 141Z-08 ...

Punching tools suitable for the punching units above

Punching unit without punching tools		Punching tools have to be ordered separately			
Order no.	Hole-Ø diameter range ØD	Round punch ●			Shaped ●
		Punch kit Order no.	Punch Order no.	Die Order no.	Punch kit Order no.
161-.... F	2-13	501-Ø-BL-ST	301-Ø	401-Ø-BL-ST	501-shaped-hole-BL-ST
162-.... F	8-25	502-Ø-BL-ST	302-Ø	402-Ø-BL-ST	502-shaped-hole-BL-ST

Insert in Order No.: Ø = hole Ø or »Formloch« (i.e. shaped hole), BL = material thickness, ST = material and strength. See also **punching tools**

Examples



141-0612 F
Cylinder force 12 kN

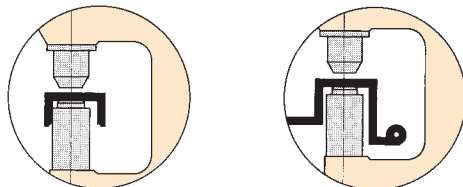


161-0663 F
Cylinder force 63 kN



162-6109 F
Cylinder force 109 kN

Application examples



Driven by
pneumatic power cylinder, single-action,
hydraulic cylinder, double-action

Round and shaped cut 

Hole diameter for series 141, 161 2–13 mm
for series 142, 162 8–25 mm

material thickness
with steel 0.3–3 mm*
with aluminium and plastics 0.3–5 mm*

* The cylinder force has to exceed the required cutting force.

These pneumatic and hydraulic profile punching units are suitable for a wide range of applications.

The clearance zone behind the die support makes them also suitable for punching L- and U-shaped profiles.

Which available unit to use is determined by the required cutting force.

The cutting force results from the hole diameter, material thickness and material strength. Refer to the cutting force chart.

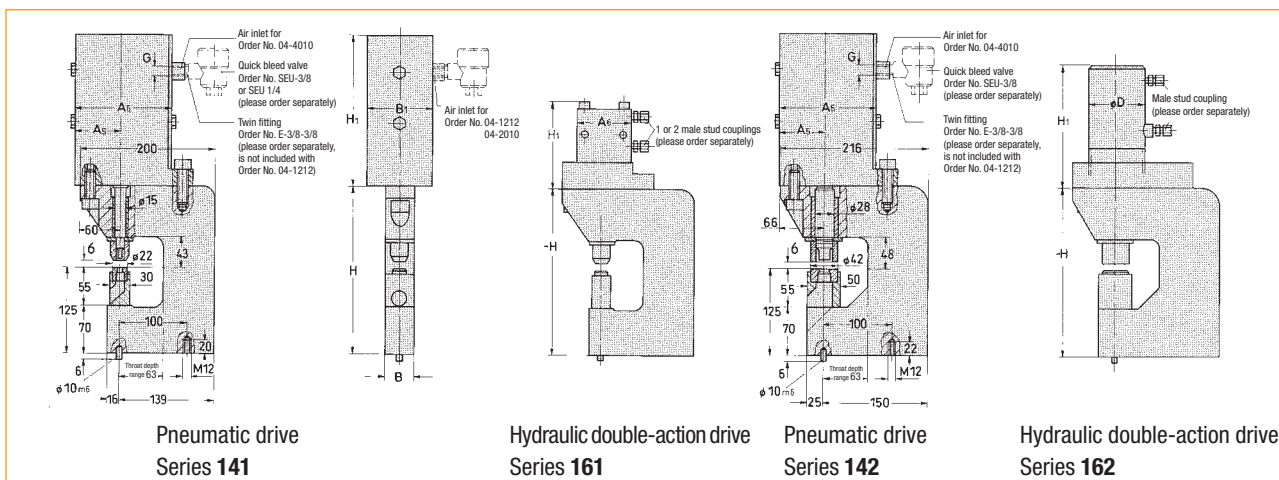
The type of power supply also depends on the number of punching units to be operated and the desired cycle time.

The pneumatic power cylinders are single-action and, in addition, require a quick bleed valve for quick reversal.

The material support height is **125 mm**.

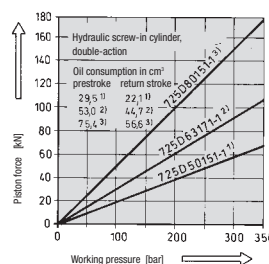
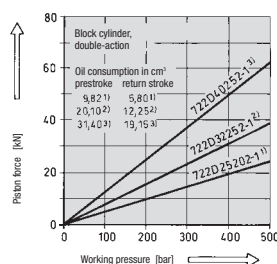
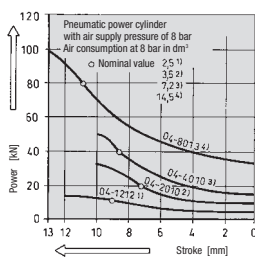
Pneumatic and hydraulic profile punching units, single- and double-action

An obligatory stripping unit can be implemented on request.



Profile punching units without punching tools		Hole Ø	Throat depth range	Max. force			Cylinder type combination of cylinder and flange	A ₅	A ₆	B	B ₁	G	H	H ₁	ØD	Weight ~ [kg]
pneumatic	hydraulic, double-action			with air supply pressure of 8 bar [kN]	with oil supply pressure of 350 bar [kN]	with oil supply pressure of 500 bar [kN]										
Order No.	Order No.	D	A													
141-0612 F	–	2-13	63	12	–	–	04-1212	55	110	45	60	1xG1/4	244	228	–	17
141-0620 F	–	2-13	63	20	–	–	04-2010	61	122	45	60	1xG3/8	244	300	–	23
141-0640 F	–	2-13	63	40	–	–	04-4010	72	144	45	108	1xG3/8	244	234	–	29
142-6320 F	–	8-25	63	20	–	–	04-2010	61	122	80	60	1xG 3/8	250	300	–	35
142-6340 F	–	8-25	63	40	–	–	04-4010	72	144	80	108	1xG 3/8	250	234	–	40
142-6380 F	–	8-25	63	80	–	–	04-8013	77	154	80	122	1xG 3/8	250	405	–	62
–	161-0624 F	2-13	63	–	–	24	722D25202-FL ⁴⁾	32,5	65	45	45	2xG1/4	244	129	–	16
–	161-0640 F	2-13	63	–	–	40	722D32252-FL ⁴⁾	37,5	75	45	60	2xG1/4	244	140	–	17
–	161-0663 F	2-13	63	–	–	63	722D40252-FL ⁴⁾	42,5	85	45	70	2XG1/4	244	144	–	18
–	162-6368 F	8-25	63	–	68	–	725D50151-FL ⁴⁾	32,5	–	80	80	2XG1/4	250	154	65	26
–	162-6109 F	8-25	63	–	109	–	725D63171-FL ⁴⁾	48,5	–	80	100	2XG1/4	250	169	97	29
–	162-6175 F	8-25	63	–	175	–	725D80151-FL ⁴⁾	52,5	–	80	105	2XG3/8	250	195	105	34

⁴⁾ If you require the cylinder without the mounting flange, omit the letters »FL« in the Order No.



Punching tools suitable for the punching units above

Punching unit without punching tools		Punching tools have to be ordered separately			
Order No.	Hole diameter range Ø	Round punch		Shaped punch	
		Punch kit	Punch	Die	Punch kit
Order No.	Ø	Order No.	Order No.	Order No.	Order No.
141-.... F	2-13	501-Ø-BL-ST	301-Ø	401-Ø-BL-ST	501-Formloch-BL-ST
142-.... F	8-25	502-Ø-BL-ST	302-Ø	402-Ø-BL-ST	502-Formloch-BL-ST
161-.... F	2-13	501-Ø-BL-ST	301-Ø	401-Ø-BL-ST	501-Formloch-BL-ST
162-.... F	8-25	502-Ø-BL-ST	302-Ø	402-Ø-BL-ST	502-Formloch-BL-ST

Insert in Order No.: Ø = hole Ø or »Formloch« (i.e. shaped hole), BL = material thickness, ST = material and strength. See also **punching tools**