

BUSHED EJECTOR "BE" / 606

DRILL EJECTOR UNIT "DEV" / 607

FLOW FORM PUNCH "FF" / 604

HEXAGON SOCKET HEAD PUNCH TYPE "L" POLISHED / 602

HEXAGON SOCKET HEAD PUNCH TYPE "M" / 603

HEXAGON SOCKET HEAD PUNCH TYPE "K" POLISHED / 601

RECESS DRIFT "RD" / 605

VI/ 6

VI/ 7

VI/ 4

VI/ 2

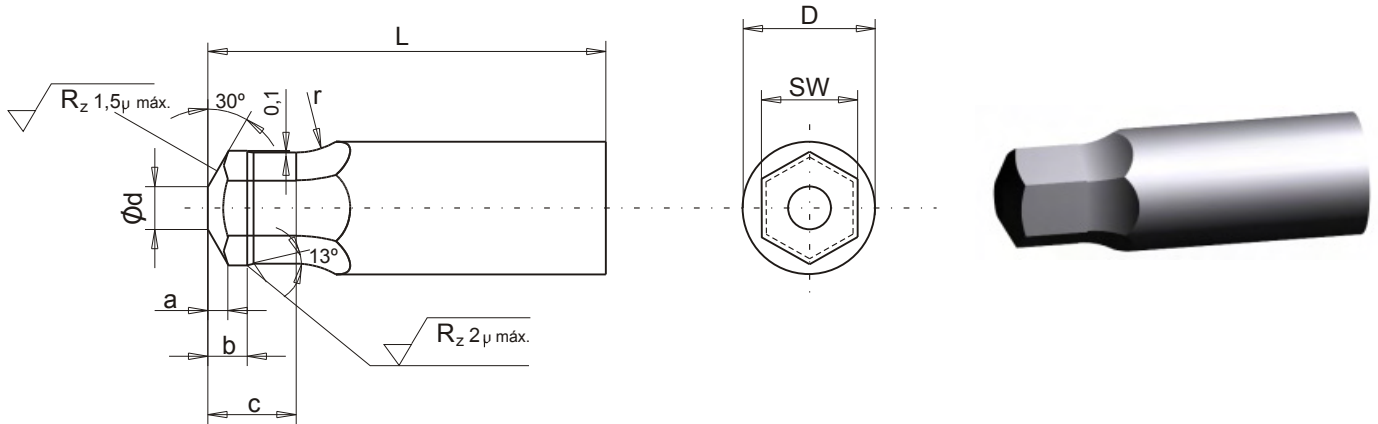
VI/ 3

VI/ 1

VI/ 5

PUNZON SIN CABEZA - TIPO "K" PARA ESTAMPACION DE HEXAGONO INTERIOR
HEXAGON SOCKET HEAD PUNCH TYPE "K" POLISHED

601



UTILIDAD : Estampación hexagono interior en las cabezas de los tornillos del DIN EN ISO 4762 (antes Din 912)
USE : For cylinder head bolts to DIN EN ISO 4762, previously DIN 912.

CARACTERISTICAS : Templado y lapeado en toda su longitud. Zona hexagonal bruñida.

CHARACTERISTICS : Hardened, tempered and fully fine ground finished, detensioned with polished hexagon shape.

MATERIAL : Acero rápido y Vanadis 30
 HSS and Vanadis 30

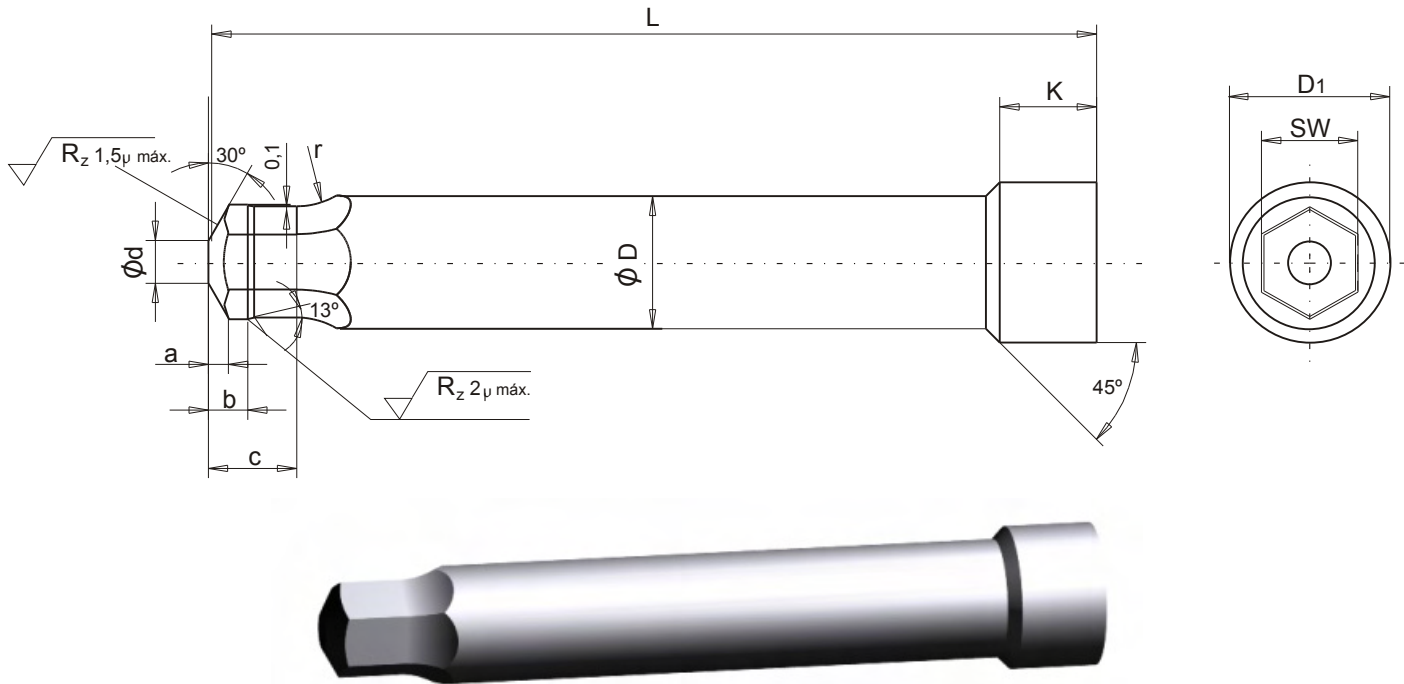
DUREZAS / HARDNESS : HRc 64 + 2

METRICO SIZE	D (f7)	SW 0 -0.02	L ±0.10	a ±0.10	b +0.20	c +0.50	d ±0.35	r
M 3	4.0	2.58	36.0	X	X	2.3	X	5
M 4	5.0	3.08	36.0	X	X	3.0	X	5
M 5	6.0	4.09	36.0	X	X	4.0	X	5
M 6	7.0	5.14	36.0	X	X	5.0	X	5
M 8	7.5	6.14	36.0	X	X	6.5	X	6
M 10	10.0	8.17	36.0	X	X	7.5	X	6
M 12	12.0	10.17	36.0	X	X	8.4	X	6
M 14	14.5	12.21	47.0	X	X	10.0	X	8
M 16	17.0	14.21	47.0	X	X	13.5	X	8
M 18	18.0	14.21	52.0	X	X	13.5	X	8
M 20	20.0	17.23	55.0	X	X	15.0	X	8

a, b, d = Elección del cliente / Customer's choice.

FORMA DE PEDIDO / ORDER FORM : Metrico / Size.

HEXAGON SOCKET HEAD PUNCH TYPE "L" POLISHED



UTILIDAD : Estampación hexagono interior en las cabezas de los tornillos del DIN EN ISO 4762 (antes Din 912)

USE : For cylinder head bolts to DIN EN ISO 4762, previously DIN 912.

CARACTERISTICAS : Templado y lapeado en toda su longitud. Zona hexagonal bruñida.

CHARACTERISTICS : Hardened, tempered and fully fine ground finished, detensioned with polished hexagon shape.

MATERIAL : Acero rápido y Vanadis 30

MATERIAL : HSS and Vanadis 30

DUREZAS / HARDNESS : HRc 64 + 2

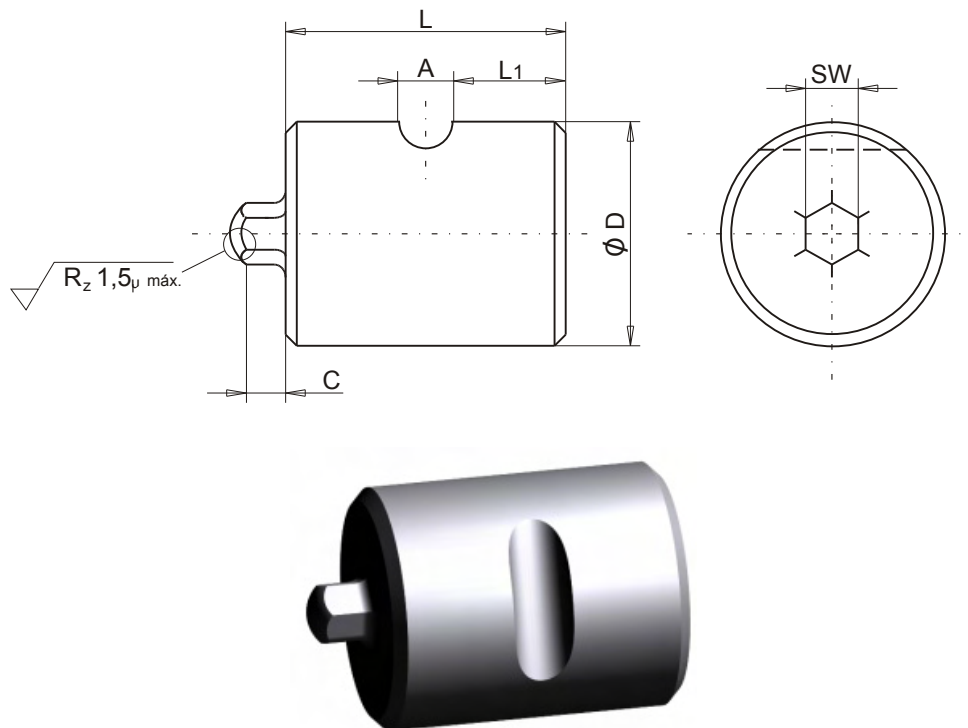
METRICO	D	D1	SW	L	a	b	c	d	r	K
SIZE	f7	0 -0.1	0 -0.02	±0.10	±0.10	+0.20	+0.50	±0.35		±0.10
M 3	3.5	5.0	2.58	44.2	X	X	2.3	X	5	6.5
M 4	5.0	7.0	3.08	44.2	X	X	3.0	X	5	6.5
M 5	5.5	7.0	4.09	58.0	X	X	4.0	X	5	6.5
M 6	6.6	8.2	5.14	58.0	X	X	5.0	X	5	6.5
M 8	8.0	9.5	6.14	58.0	X	X	6.5	X	6	6.5
M 10	10.0	11.5	8.17	80.0	X	X	7.5	X	6	8.8
M 12	12.5	14.5	10.17	80.0	X	X	8.4	X	6	9.0
M 14	15.0	17.0	12.21	90.0	X	X	10.0	X	8	10.0
M 16	17.0	19.0	14.21	90.0	X	X	13.5	X	8	10.0
M 18	17.0	19.0	14.21	90.0	X	X	13.5	X	8	10.0
M 20	21.0	23.5	17.23	100.0	X	X	15.0	X	8	12.0
M 24	23.0	24.0	19.27	152.9	X	X	18.0	X	10	12.0

a, b, d = Elección del cliente / Customer's choice.

FORMA DE PEDIDO / ORDER FORM : Metrico / Size.

PUNZON SIN CABEZA - TIPO "M" PARA ESTAMPACION DE HEXAGONO INTERIOR
HEXAGON SOCKET HEAD PUNCH, POLISHED "M" TYPE .

603



UTILIDAD : Estampación hexagono interior en las cabezas de los tornillos del DIN EN ISO 10642 (antes Din 7991)
USE : For countersunk bolts to DIN EN ISO 10642, previously DIN 7991.

CARACTERISTICAS : Templado y lapeado en toda su longitud. Zona hexagonal bruñida.

CHARACTERISTICS : Hardened, tempered and fully fine ground finished, detensioned and with polished hexagon shape.

MATERIAL : Vanadis 30 /Vanadis 30

DUREZAS / HARDNESS : HRc 64 + 2

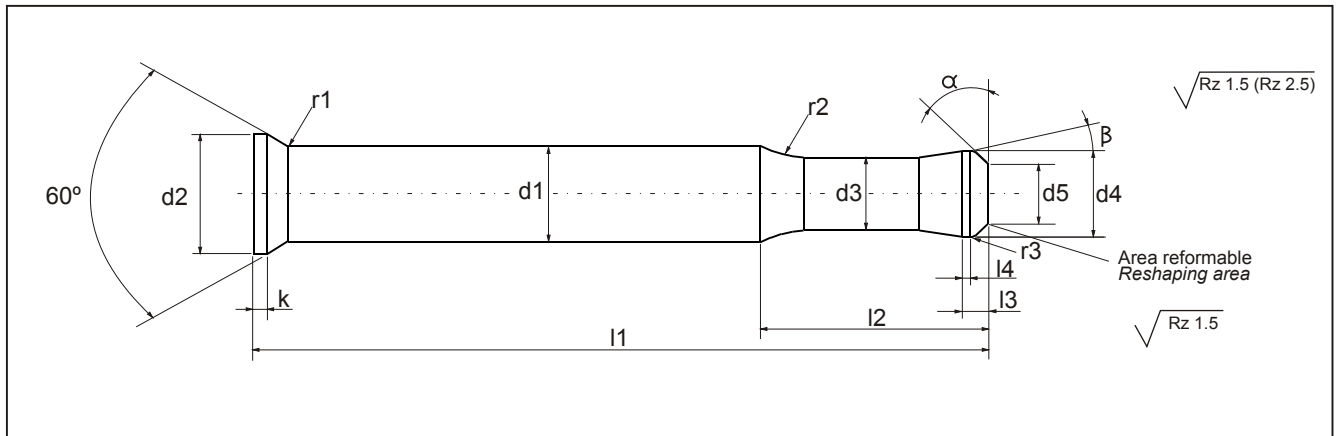
METRICO SIZE	SW 0 -0.015	D g6	L +0 -0.1	L1	A	c +0 -0,01
M 3	2.1	13	25	10.5	3	1.2
M 4	2.5	13	25	10.5	3	1.8
M 5	3.1	17	25	9.5	5	2.3
M 6	4.12	17	25	9.5	5	2.5
M 8	5.14	20	25	9.5	5	3.5
M 10	6.14	25	25	9.5	5	4.4
M 12	8.175	30	25	9.5	5	4.5

FORMA DE PEDIDO / ORDER FORM : Metrico / Size.

PUNZON DE FORMA "FF"

FLOW FORM PUNCH "FF"

Con cabeza avellanada 60° / With 60° countersunk head



- CARACTERISTICAS** : Templado y lapeado en toda su longitud.
- CHARACTERISTICS** : Hardened, tempered and fully fine ground finished and polished.
- MATERIALES** : HSS / Vanadis 30
- MATERIALS** : HSS / Vanadis 30
- DUREZA / HARDNESS** : HSS = HRC 64±2 / Vanadis 30 = HRC 66+2

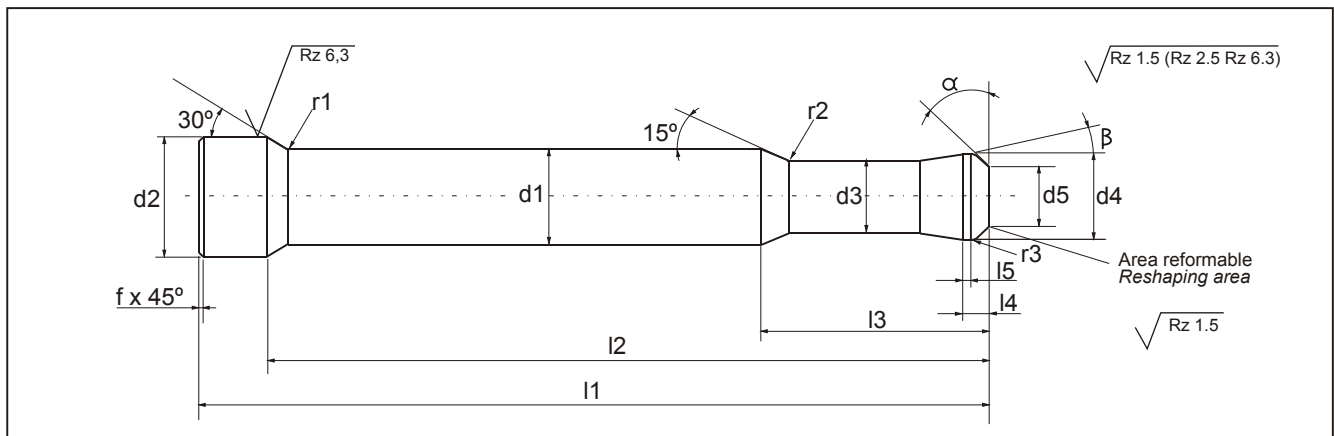
d1	d2	d3	d4	d5	l1	l2	l3	l4	k	r1	r2	r3	α	β

Medidas a petición del cliente / Dimensions at customer's choice.
Bajo pedido podemos suministrar otros materiales, formas o variaciones de dureza.
On request we also supply other materials or custom designs and hardness variations.

PUNZON RETROCESO FORMA “ RD “
RECESS DRIFT “ RD “

605

USO: Para deshacer la forma realizada con el punzón “FF”
USE : For reverse flow forming.



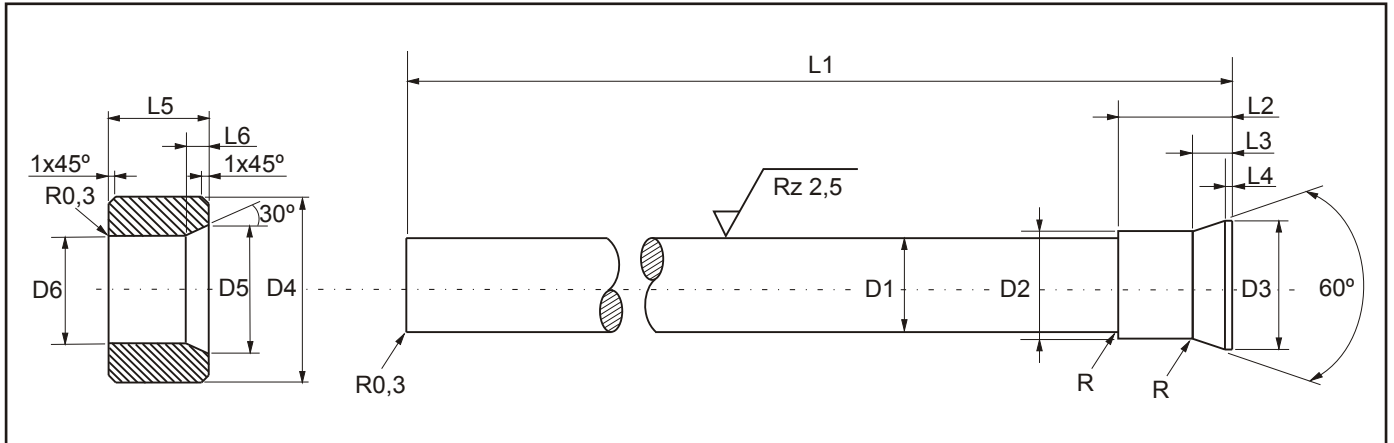
- CARACTERISTICAS** : Templado y lapeado en toda su longitud.
CHARACTERISTICS : Hardened, tempered and fully fine ground finished and polished.
MATERIALES : HSS / Vanadis 30
MATERIALS : HSS / Vanadis 30
DUREZA / HARDNESS : HSS = HRc 64±2 / Vanadis 30 = HRc 66+2

d1	d2	d3	d4	d5	l1	l2	l3	l4	f	r1	r2	r3	α	β

Medidas a petición del cliente / Dimensions at customer's choice.

Bajo pedido podemos suministrar otros materiales, formas o variaciones de dureza.
On request we also supply other materials or custom designs and hardness variations.

BUSHED EJECTOR " BE "



- CARACTERISTICAS** : Templado. Contracción del casquillo ajustada el expulsor.
CHARACTERISTICS : Hardened and tempered. Bush shrink fitted to ejector.
MATERIAL : Casquillo / Bush = HWS
MATERIAL : Expulsor / Ejector = HSS
DUREZAS : Casquillo / Bush = HWS - HRc 54 + 2
HARDNESS : Expulsor / Ejector = HSS - HRc 60 +2

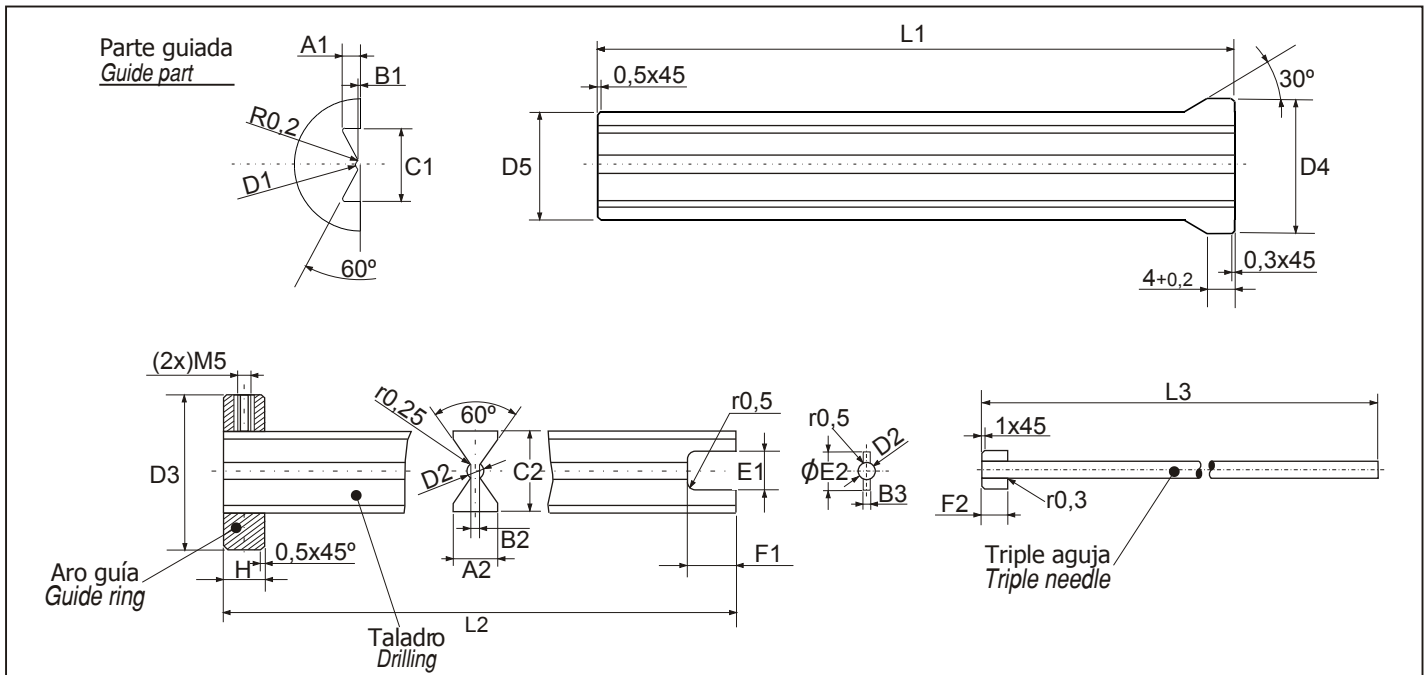
L2 = Medida hasta el final del casquillo una vez ensamblado.
 L2 = Ejector bush underside in assembled condition.

D1	D2	D3	D4	D5	D6	L1	L2	L3	L4	L5	L6
f7	s7		±0.1		H7		±0.05	±0.05		±0.05	

Medidas a elección del cliente.
 Dimensions at customer's choice.

CONJUNTO EXPULSOR PERFORADOR “ DEV “
DRILL EJECTOR UNIT “ DEV “

607



PARTE / PART

MATERIAL

DUREZA / HARDNESS

Aguja perforadora / Drill Needle	HWS HSS	HRc 60 + 2 HRc 60 + 2
Taladro / Drill	1.2842	HRc 60 ± 2
Aro guía / Guide ring	16 MnCr 5	--
Parte guiada / Guide part	GG 25 HWS	-- HRc 58 + 2

L1 ±0,1	L2 +0,5 0	L3 +0,5 0	D3 0 -0,1	D4 0 -0,2	D5 f7	A1 +0,1 0	A2 0 -0,1	B1 +0,05 0	B2 0 -0,05

B3 +0,05 0	C1 +0,1 0	C2 0 -0,02	D1 +0,02 0	D2 0 -0,02	E1 +0,2 0	E2 0 -0,1	F1 +0,2 0	F2 0 -0,1	H 0 -0,1

Medidas a petición del cliente / Dimensions at customer's choice.