

Sistemas de canal caliente

Hot runners systems



GUÍA DE DISEÑO

DESIGN GUIDELINES



We make things for you

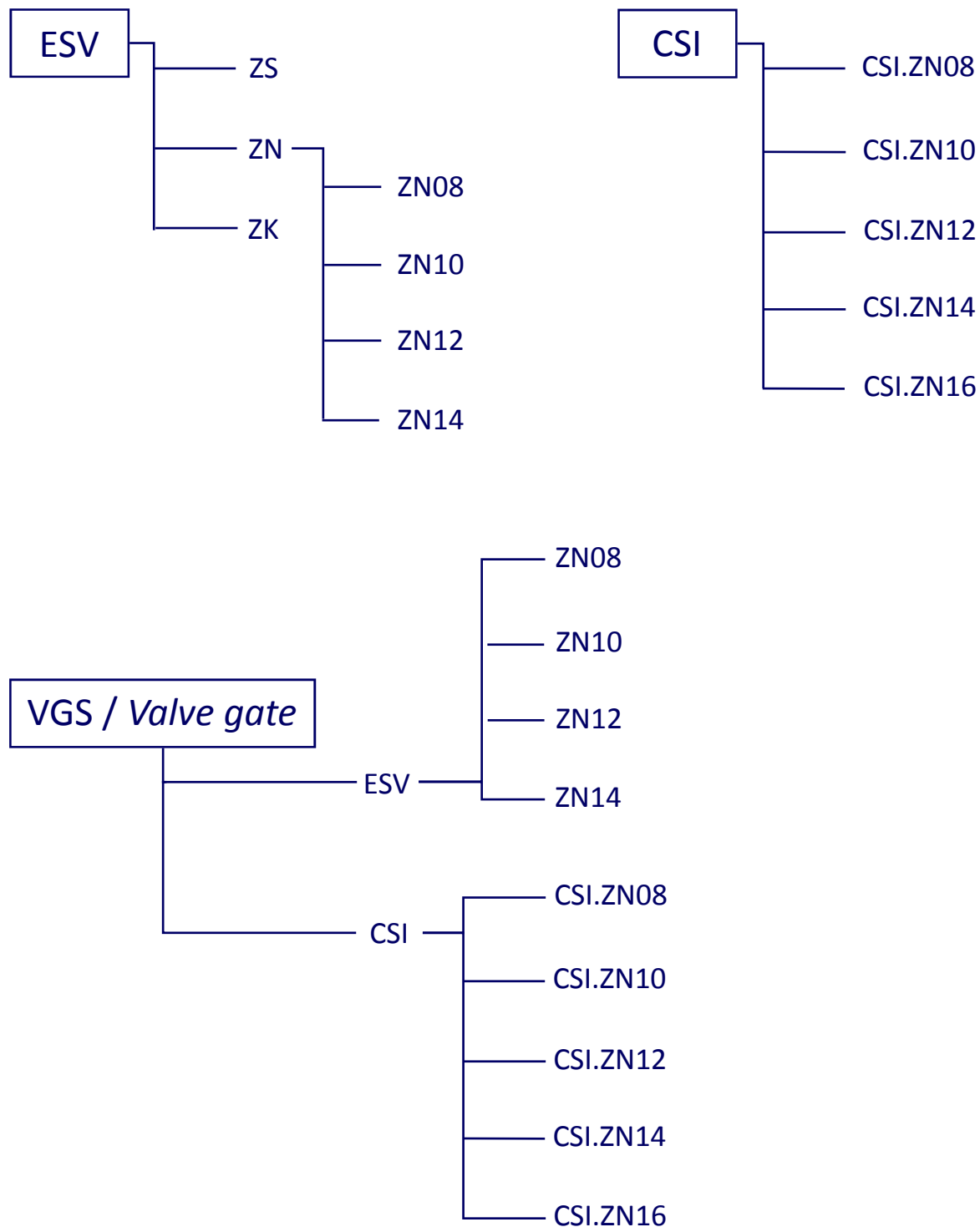
GUIA DE DISEÑO / DESIGN GUIDELINES

Boquillas / <i>Nozzles</i>	1.01
Serie de boquillas / <i>Nozzles series</i>	1.02
Sistemas de distribución / <i>Distribution Systems</i>	1.03
Tipo de puntera / <i>Gate</i>	1.04 - 1.09
Diámetro de paso / <i>Gate diameter</i>	1.10 - 1.11
Comprobación número de boquillas / <i>Verification number nozzles</i>	1.12 - 1.27
Bloques estándar / <i>Standard manifolds</i>	1.28
Hoja información oferta comercial / <i>Commercial offer</i>	1.29 - 1.30

Elija el tipo y tamaño de la boquilla de acuerdo al peso de su pieza. Si esta utilizando un sistema con más de una boquilla para el llenado de una única pieza, divida el peso por el número de boquillas para elegir la boquilla correcta

Choose the nozzle product according to the weight of your part. If you are using more than one nozzle to fill your part, use the weight per nozzle to select the right nozzle size.

NOZZLE SERIE	PART WEIGHT <i>PESO PIEZA</i>	PESO POR BOQUILLA <i>WEIGHT PER NOZZLE</i>	Ø INTERIOR <i>INTERNAL Ø</i>	Ø AGUJA <i>VALVE NEEDLE Ø</i>
ZS	Pequeño <i>Small</i>	Hasta 5 g <i>Up to 5 g</i>	4 mm	—
ZS	Pequeño <i>Small</i>	Hasta 15 g <i>Up to 15 g</i>	5 mm	—
ZN08	Mediana <i>Medium</i>	15 - 60 g	8 mm	3
ZN10	Mediana <i>Medium</i>	60 - 300 g	10 mm	3 - 4
ZN12	Grande <i>Large</i>	300 - 500 g	12 mm	4
ZN14	Grande <i>Large</i>	Hasta 500 g <i>Up to 500 g</i>	14 mm	4
ZN16	Grande <i>Large</i>	500 - 3500 g	16 mm	6
ZK	Grande <i>Large</i>	500 - 3500 g	16 mm	—



ORYMO fabrica dos sistemas de distribución : sistemas ESV (con boquillas por contacto) y sistemas CSI (con boquillas roscadas).

ORYMO makes two kinds of manifold systems ESV system (with sliding nozzles) and CSI systems (with screwed-in nozzles).

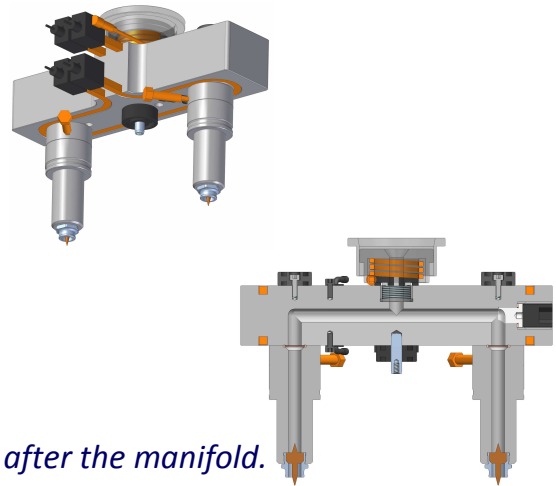
ESV

Características sistema ESV:

- Se entrega sin cablear.
- Se necesita montar antes las boquillas y luego el bloque.

Characteristics ESV systems:

- Supplied without wiring.
- You need to assemble the nozzles before and after the manifold.



CSI

Características sistema CSI:

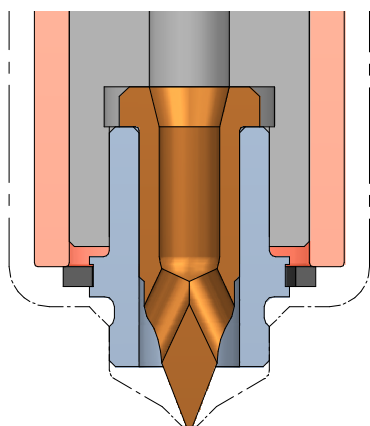
- Se entregan totalmente cableados y verificados eléctricamente.
- Se suministran con un sistema carenado, con conectores y termopares incluidos.
- El inyector puede montar y desmontar el molde tantas veces sea necesario sin manipular cables eléctricos ni conectores

Characteristics CSI systems:

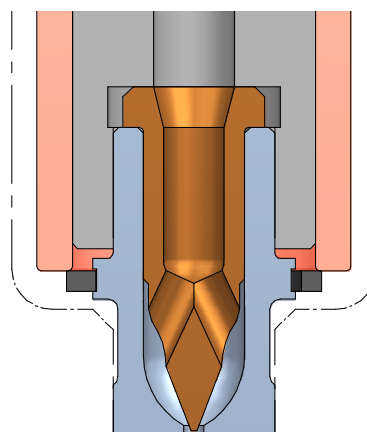
- This systems are delivered totally wired up and electrically checked.
- Pre-wired system, power connector and thermocouples are supplied.
- Injector can assemble and disassemble the mold so many times is necessary without handling the wires or connectors



SERIE ZS

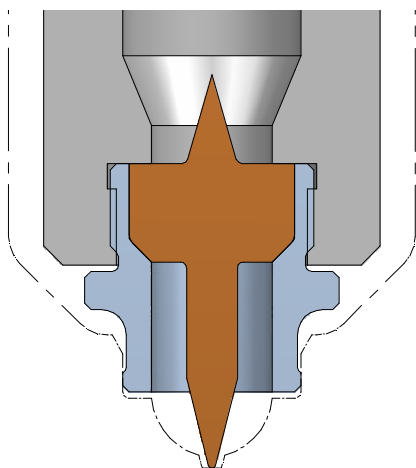


Tipo C

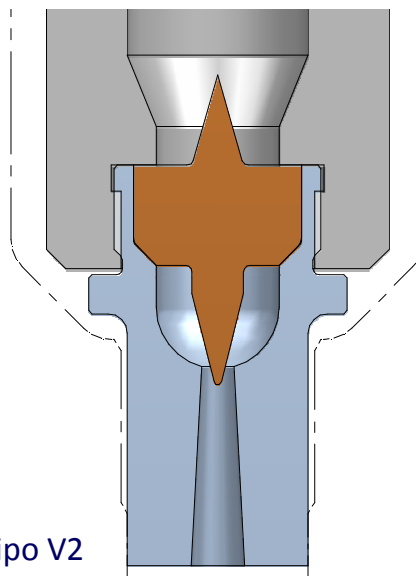


Tipo DF

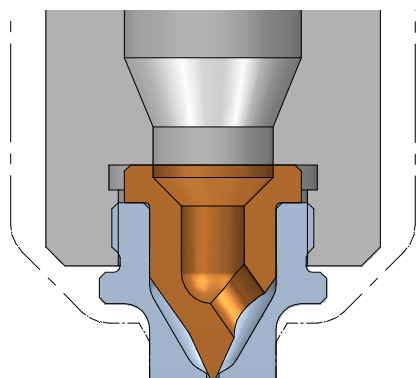
SERIE ESV.ZN



Tipo M2

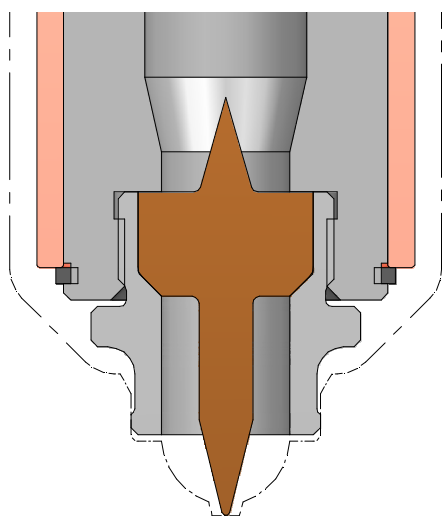


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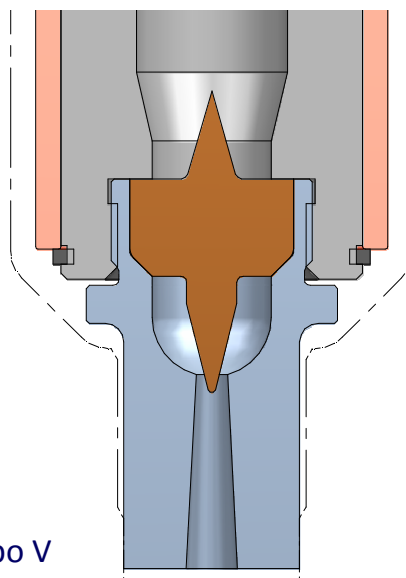


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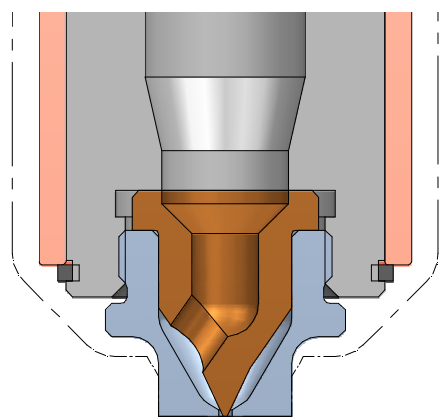
SERIE CSI.ZN



Tipo M

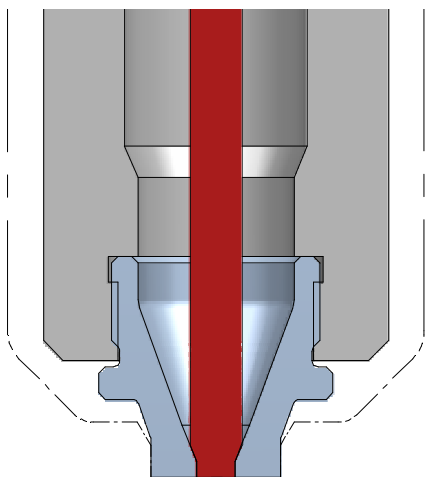


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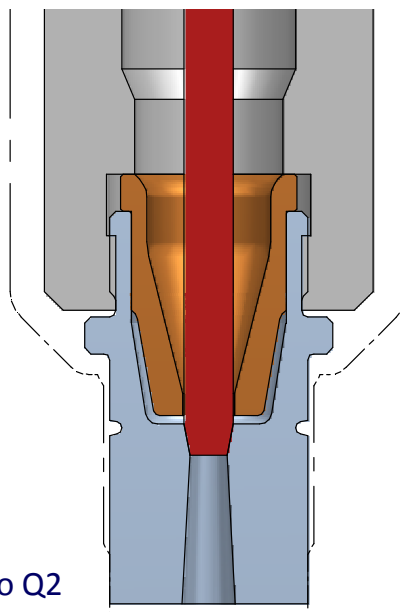


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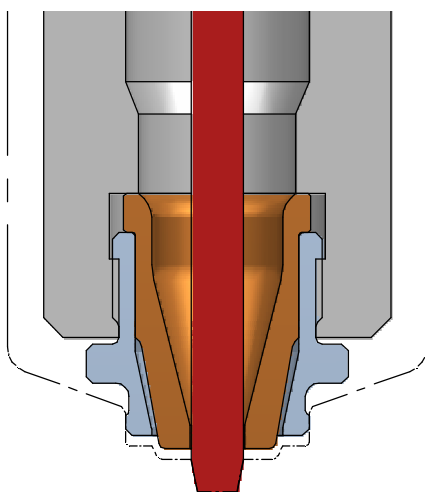
SERIE ESV.VGS / VALVE GATE ESV



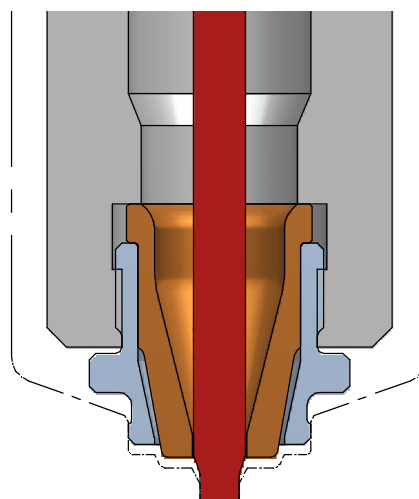
Tipo E2



Tipo Q2

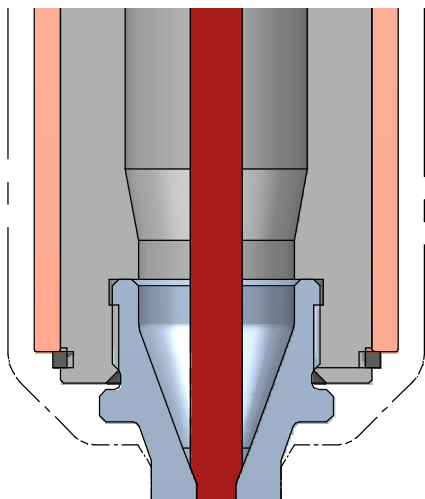


Tipo Y2

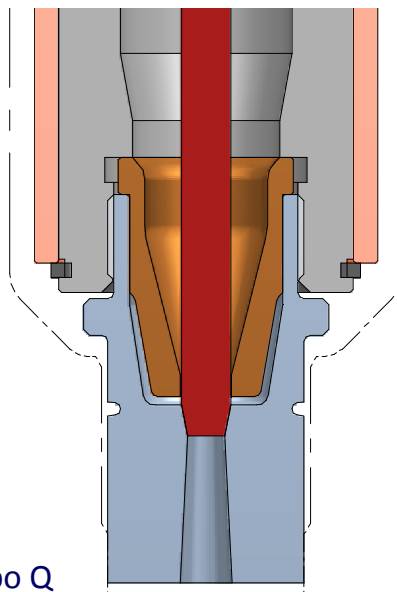


Tipo YC2

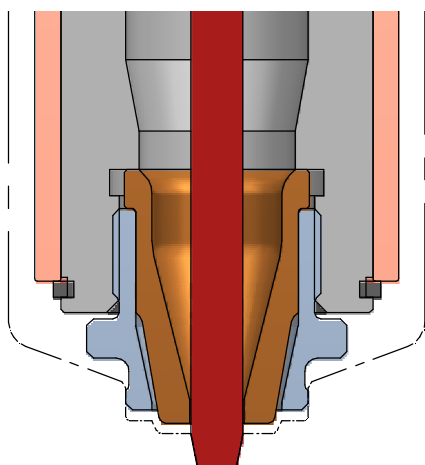
SERIE CSI.VGS / VALVE GATE CSI



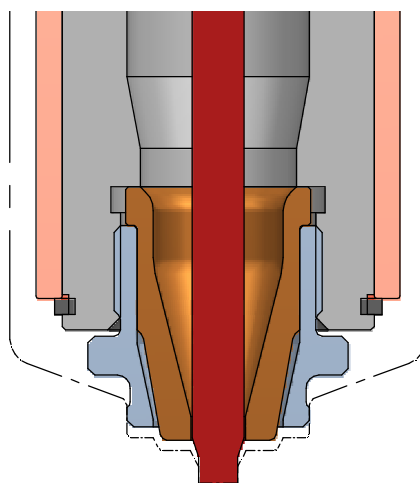
Tipo E



Tipo Q



Tipo Y

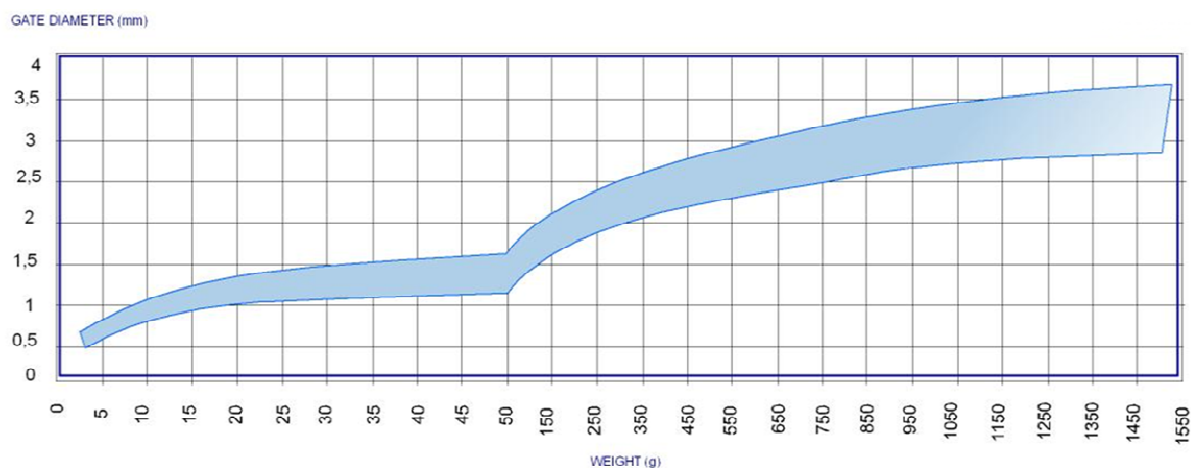


Tipo YC

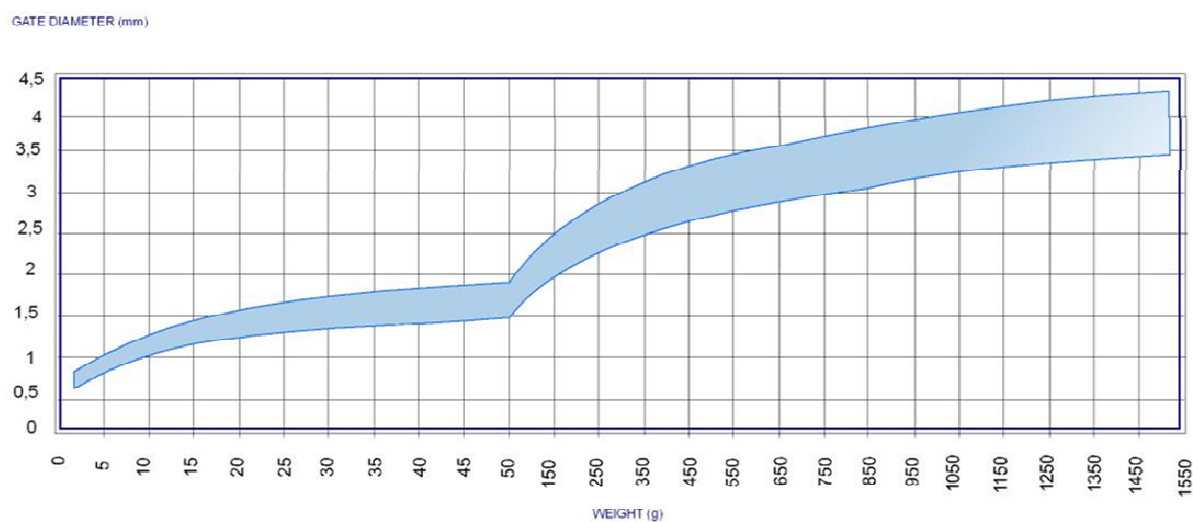
MATERIAL	Tª molde Mold T	Tª fusión Melt T	Tª proceso Process T	Tª "E"	Tipo puntera / Gate						
					C	M	V	DF	E	Q	Y
AMORFOS / AMORPHOUS	ABS	75	110	250	140	✓	X	o	X	✓	✓
	PS	45	100	225	125	✓	X	o	X	✓	✓
	PC	90	220	300	80	o	X	o	X	✓	✓
	PMMA	70	100	245	145	o	X	o	X	✓	✓
	SAN	80	115	255	140	o	X	o	X	✓	✓
	PPO	80	120	300	180	✓	X	o	X	✓	✓
	PEI	100	215	370	155	✓	X	o	X	✓	✓
	SB	70	100	225	125	✓	X	o	X	✓	✓
	PSU	150	200	315	115	✓	X	✓	X	✓	✓
	TPU	35	150	210	60	o	X	X	X	✓	✓
	PVC	35	100	195	95	X	o	X	X	✓	o
SEMICRISTALINOS / SEMICRYSTALLINE	PE	25	140	250	110	✓	X	o	X	✓	✓
	PP	35	165	255	90	✓	X	o	X	✓	✓
	PET	140	245	285	40	X	✓	✓	✓	✓	X
	PBT	60	225	265	40	X	✓	✓	✓	✓	X
	PA 6	90	220	250	30	o	✓	✓	✓	✓	X
	PA 6.6	90	255	285	30	o	✓	✓	✓	✓	X
	PA 610	90	215	250	35	o	✓	✓	✓	✓	X
	PA 11	60	175	230	55	o	✓	✓	✓	✓	X
	PA 12	60	175	230	55	o	✓	✓	✓	✓	X
	POM	100	180	200	20	o	✓	✓	✓	✓	X
	PPS	110	290	330	40	X	✓	o	✓	✓	X
	LCP	175	300	400	70	X	✓	✓	✓	✓	X
	PEEK	160	335	370	35	X	✓	o	✓	✓	X
	Cargas abrasivas					X	✓	✓	✓	✓	X
	V.O					X	✓	o	✓	✓	o

✓ Recomendado / Recommended X No recomendado / Not recommended o Según aplicación / Application dependant

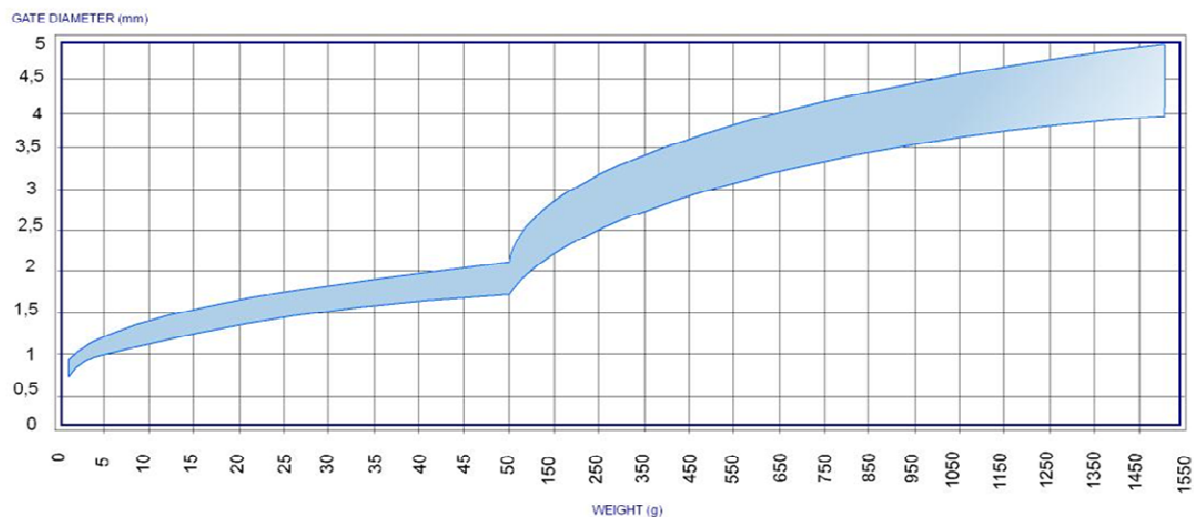
Baja viscosidad / Low viscosity : PP - PE - PS



Viscosidad media / Medium viscosity : ABS - SAN - PMMA - POM - PA



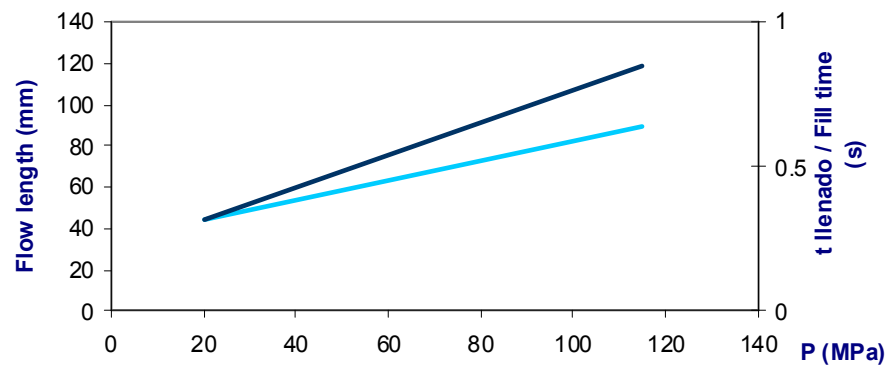
Alta viscosidad / High viscosity : PC - PC / ABS - TPE - PUR



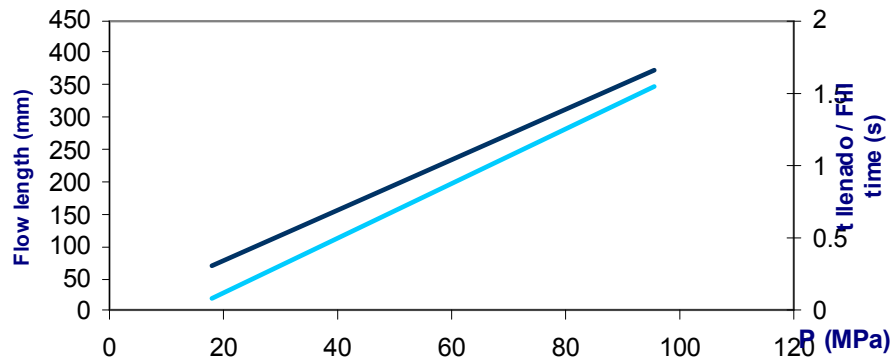
HDPE

Flow length
t llenado / Fill time

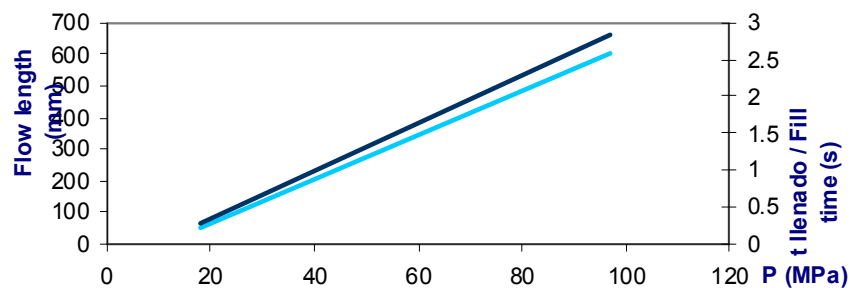
Piezas con espesor / Part thickness 1 mm



Piezas con espesor / Part thickness 2 mm



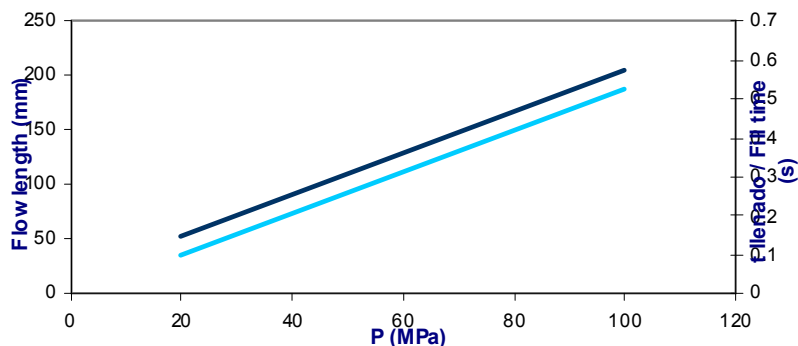
Piezas con espesor / Part thickness 3 mm



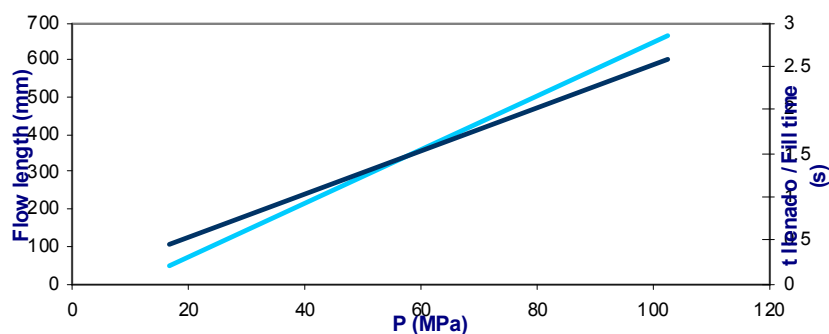
PP

Flow length
t llenado / Fill time

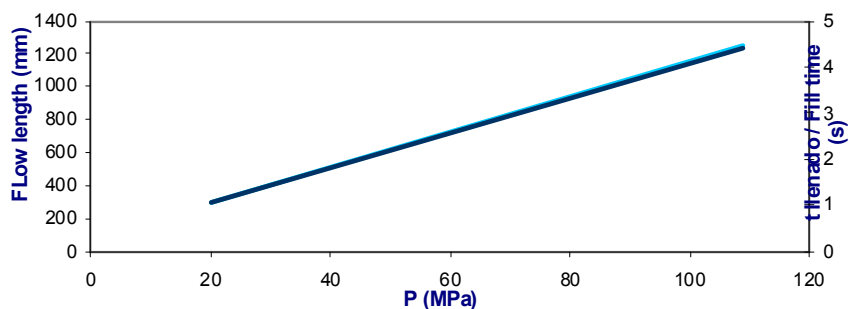
Piezas con espesor / Part thickness 1 mm



Piezas con espesor / Part thickness 2 mm



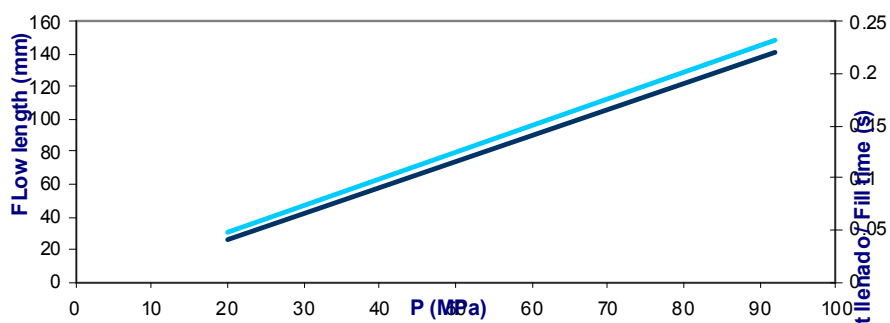
Piezas con espesor / Part thickness 3 mm



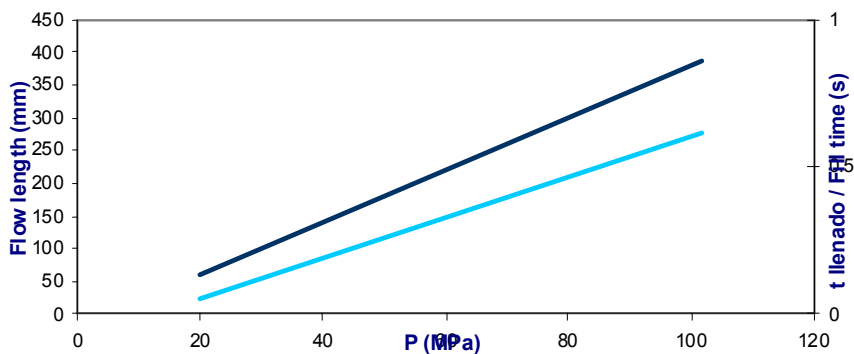
ABS

Flow length
t llenado / Fill time

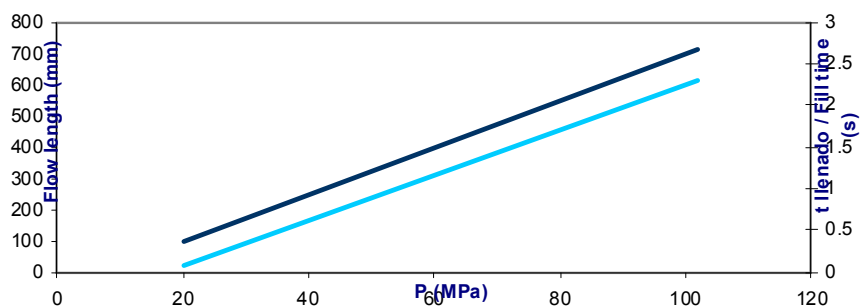
Piezas con espesor / Part thickness 1 mm



Piezas con espesor / Part thickness 2 mm



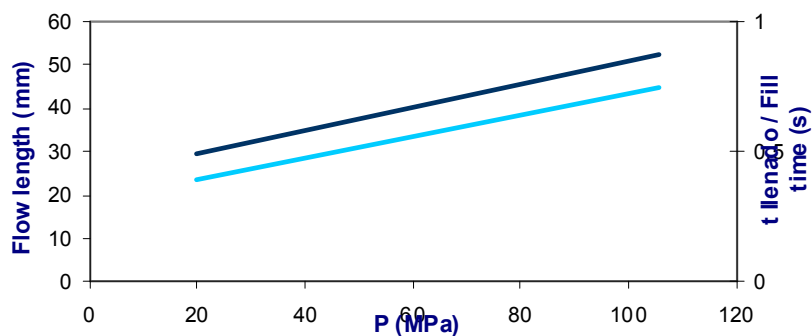
Piezas con espesor / Part thickness 3 mm



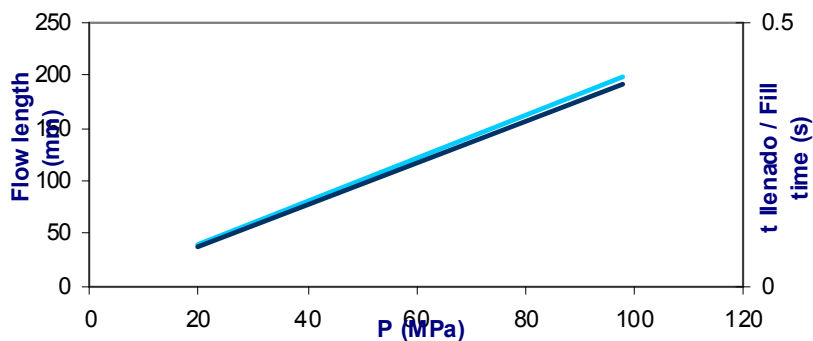
PC

Flow length
t llenado / Fill time

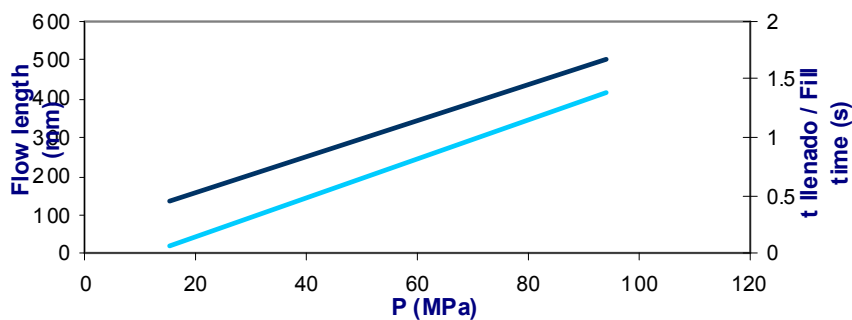
Piezas con espesor / part thickness 1 mm



Piezas con espesor / part thickness 2 mm



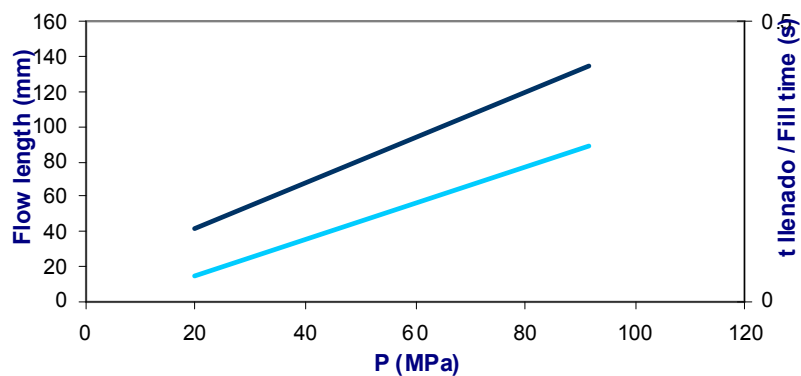
Piezas con espesor / part thickness 3 mm



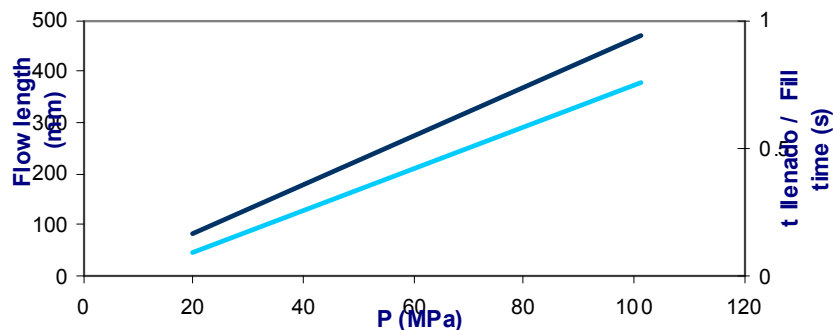
PET

Flow length
t llenado / Fill time

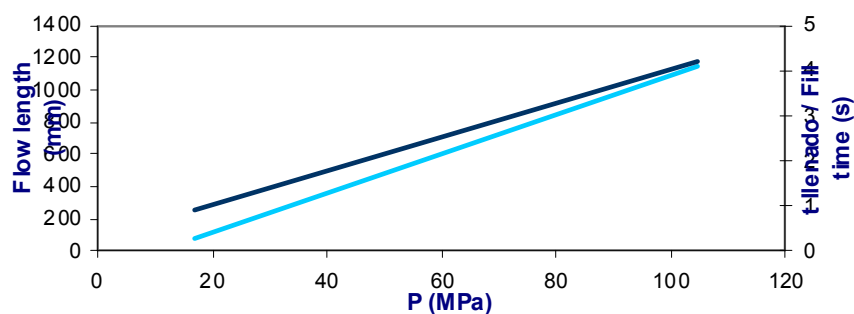
Piezas con espesor / Part thickness 1 mm



Piezas con espesor / Part thickness 2 mm



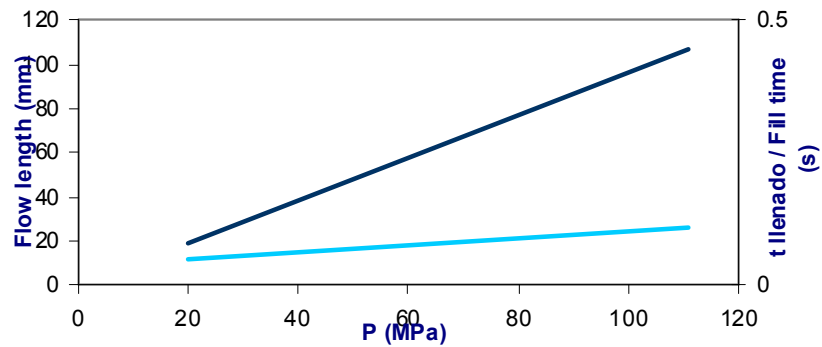
Piezas con espesor / Part thickness 3 mm



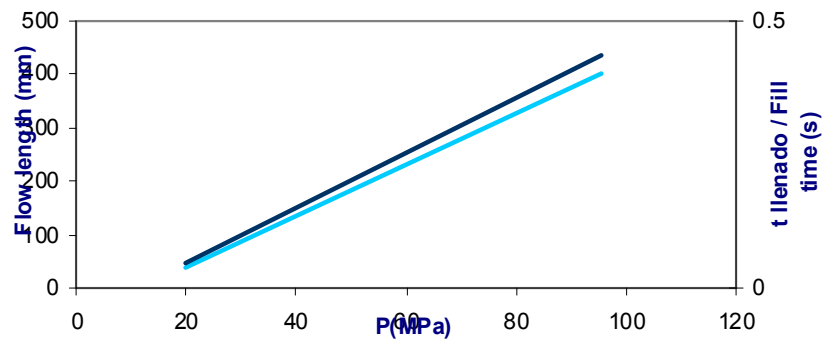
PA 66

Flow length
t llenado / Fill time

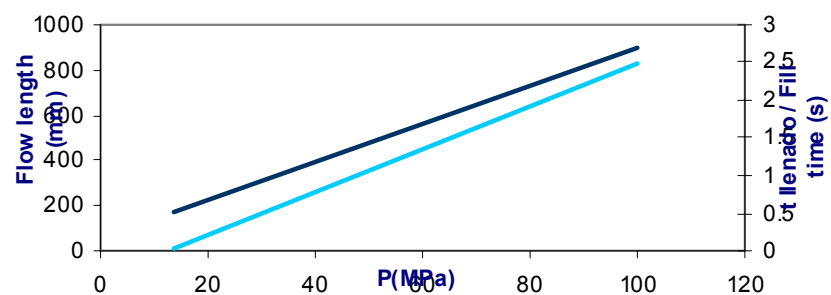
Piezas con espesor / Part thickness 1 mm



Piezas con espesor / Part thickness 2 mm



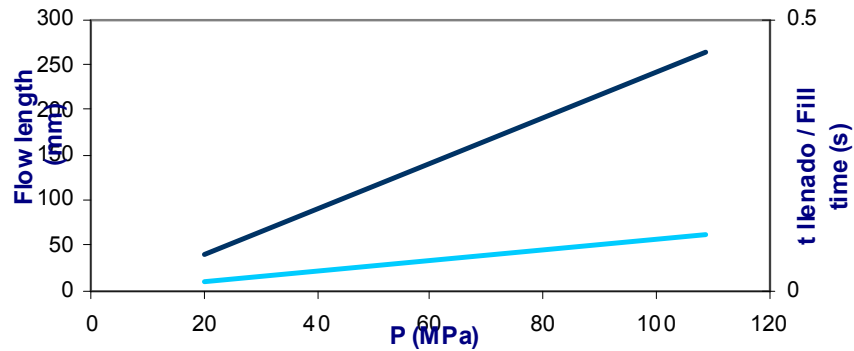
Piezas con espesor / Part thickness 3 mm



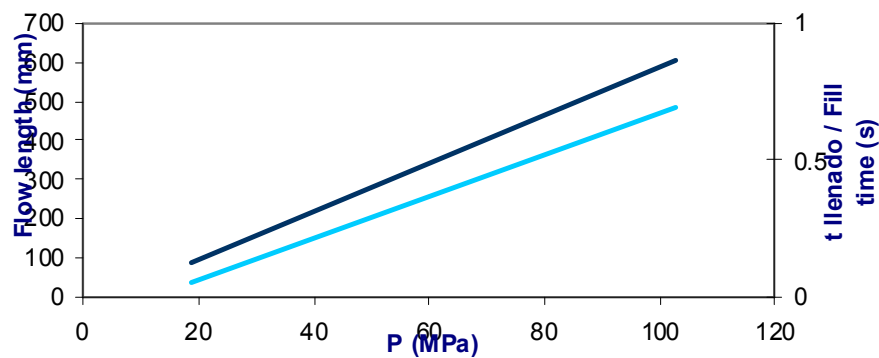
PS

Flow length
t llenado / Fill time

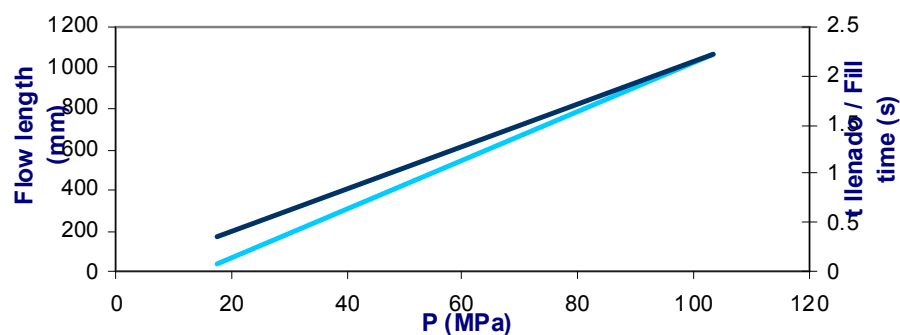
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Piezas con espesor / Part thickness 2 mm

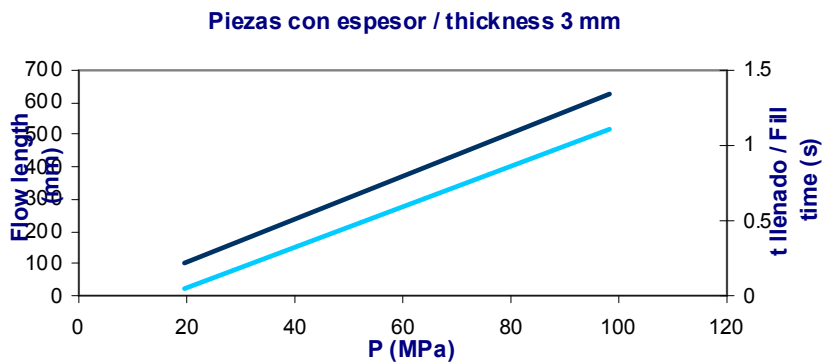
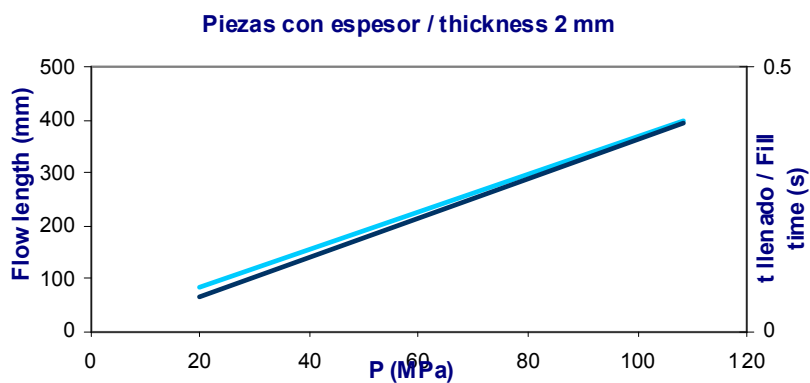
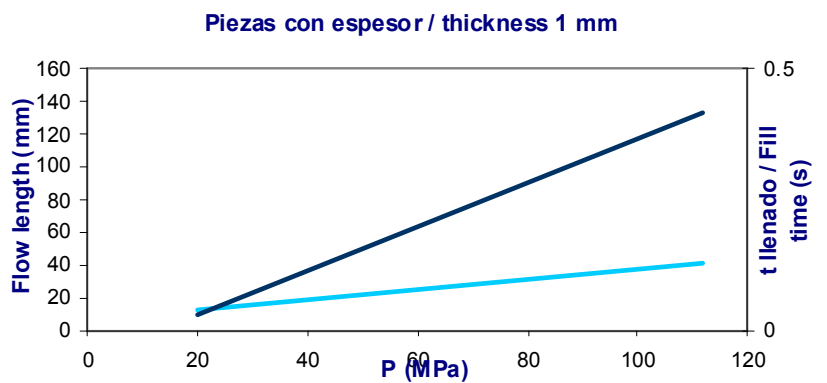


Piezas con espesor / Part thickness 3 mm



PMMA

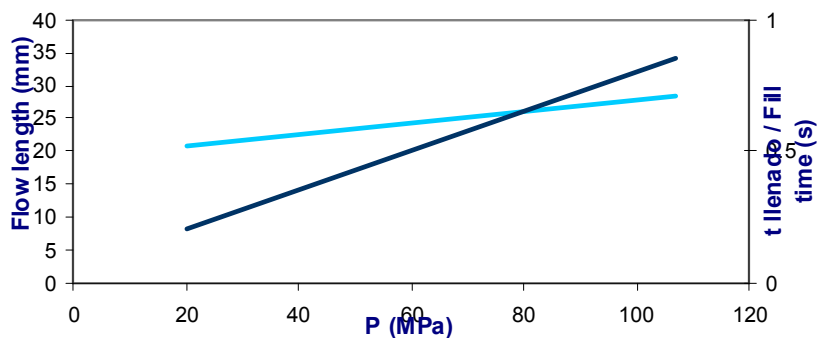
Flow length
t llenado / Fill time



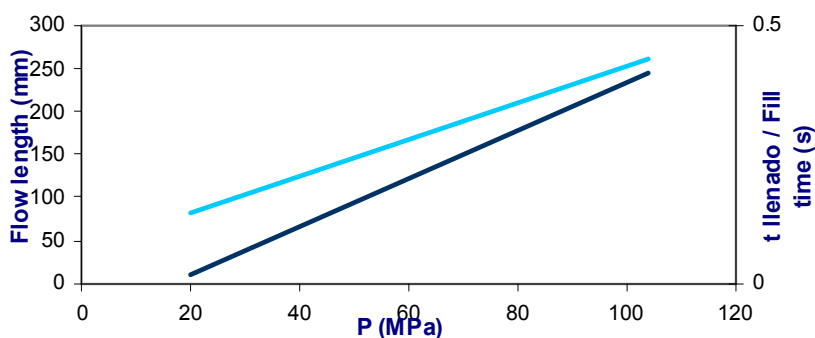
PVC

Flow length
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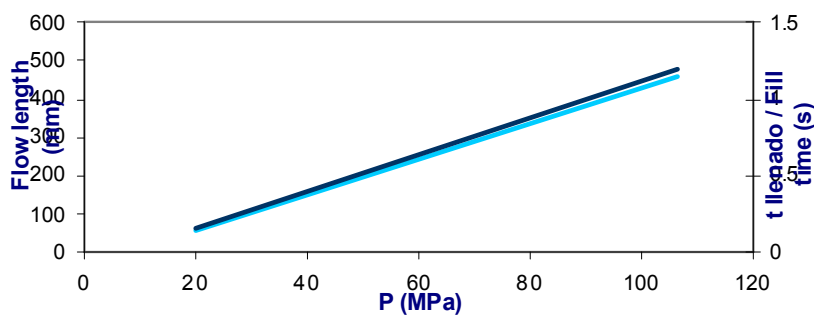
Piezas con espesor / Part thickness 1 mm



Piezas con espesor / Part thickness 2 mm

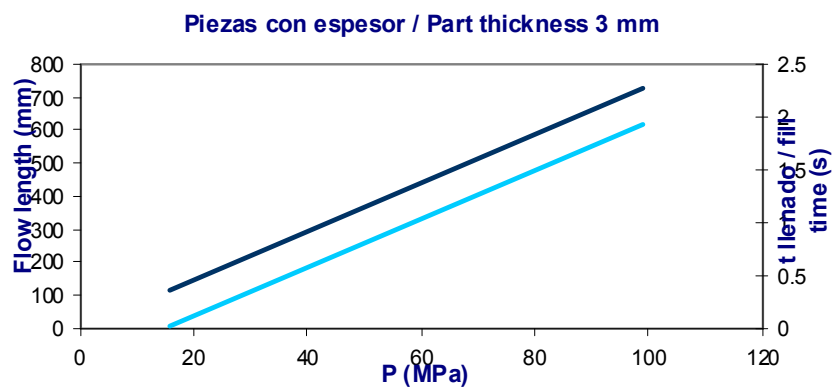
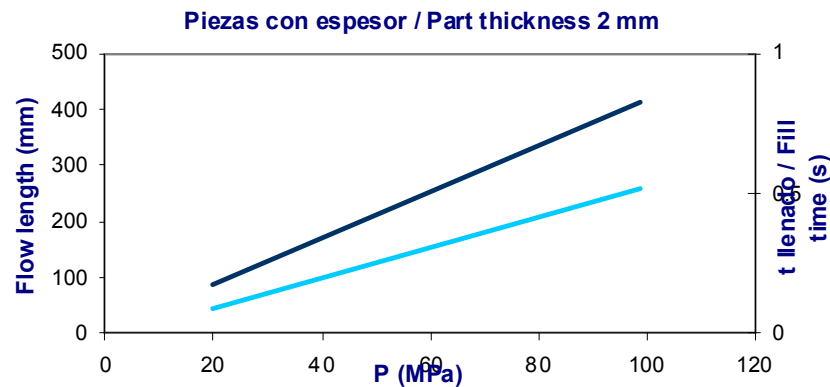
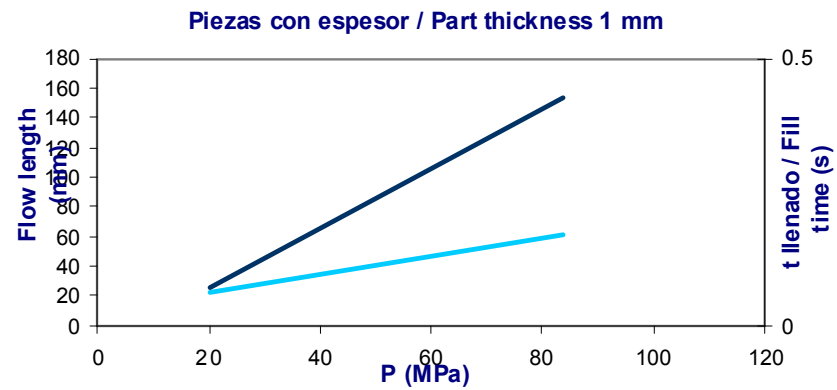


Piezas con espesor / Part thickness 3 mm



SAN

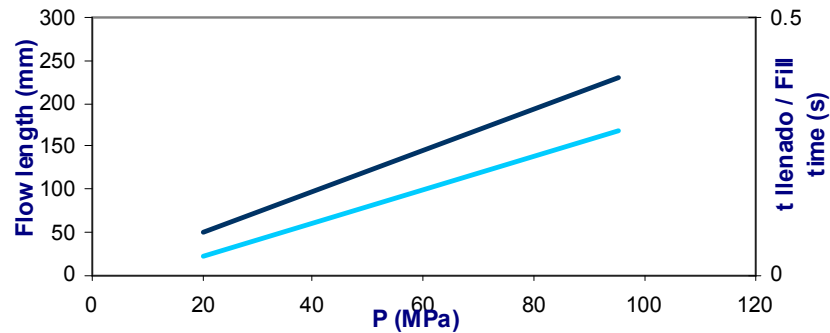
Flow length
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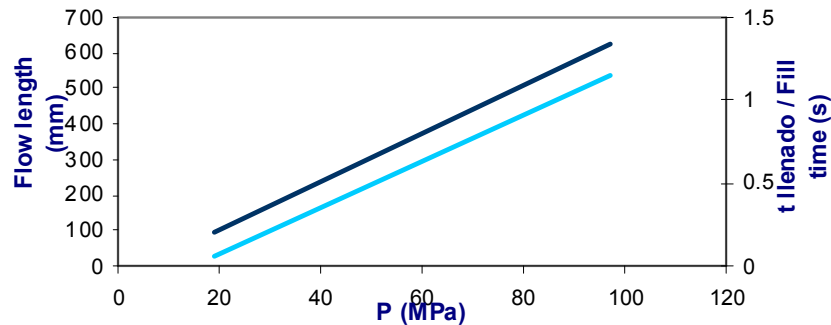
HIPS

Flow length
t llenado / Fill time

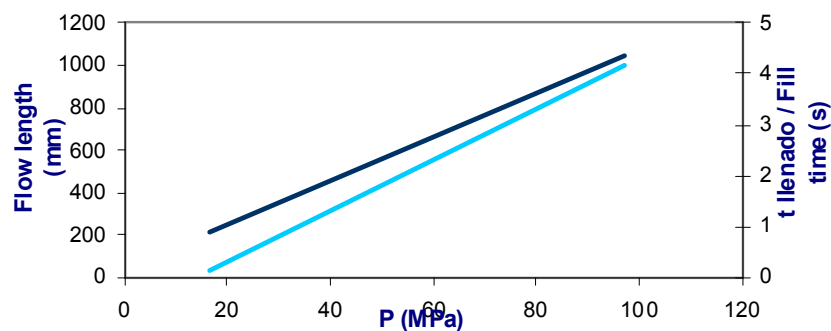
Piezas con espesor / Part thickness 1 mm



Piezas con espesor / Part thickness 2 mm



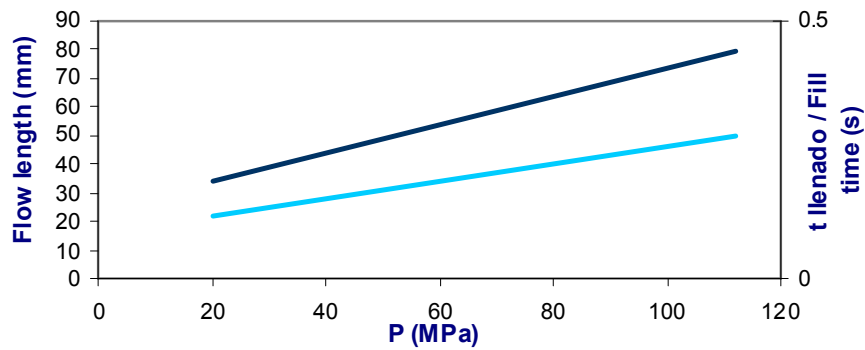
Piezas con espesor / Part thickness 3 mm



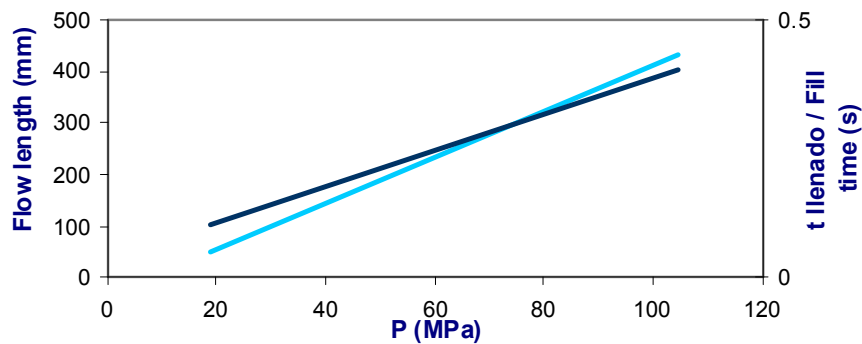
PBT

Flow length
t llenado / Fill time

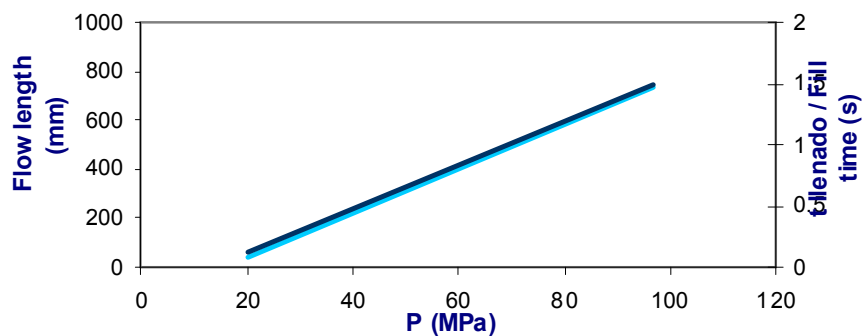
Piezas con espesor / Part thickness 1 mm



Piezas con espesor / Part thickness 2 mm



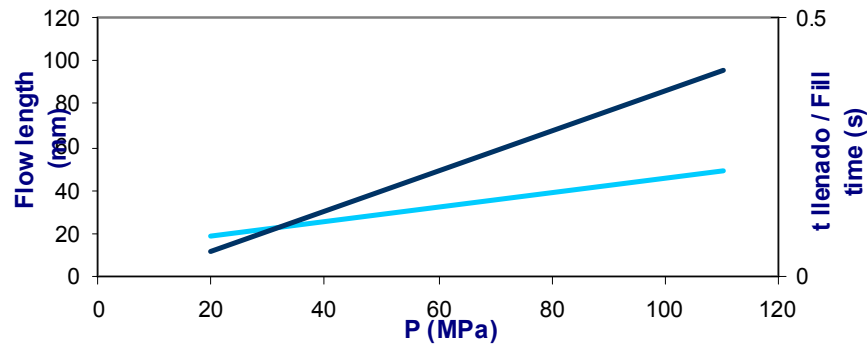
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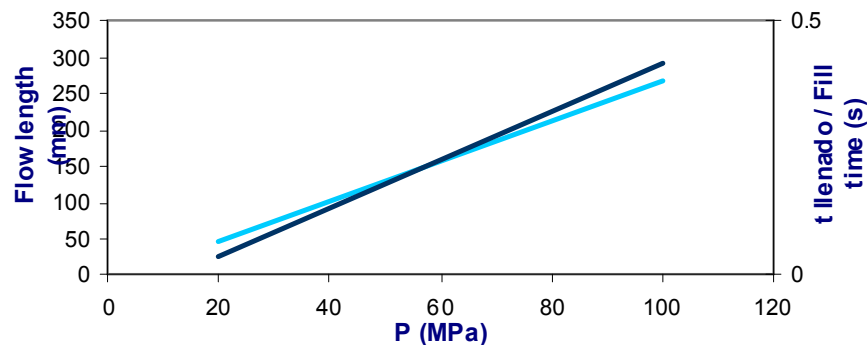
PC/ABS

Flow length
t llenado / Fill time

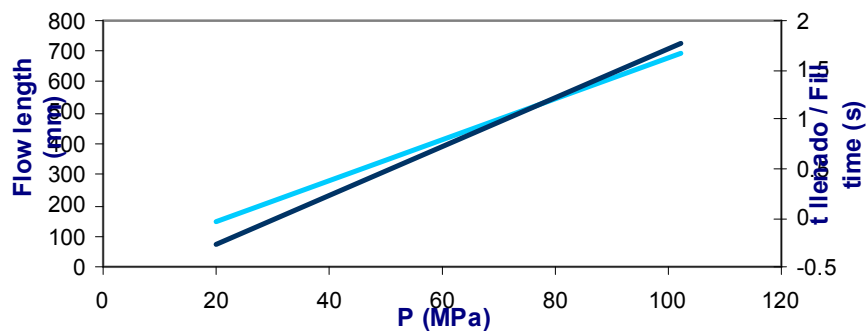
Piezas con espesor / Part thickness 1 mm



Piezas con espesor / Part thickness 2 mm

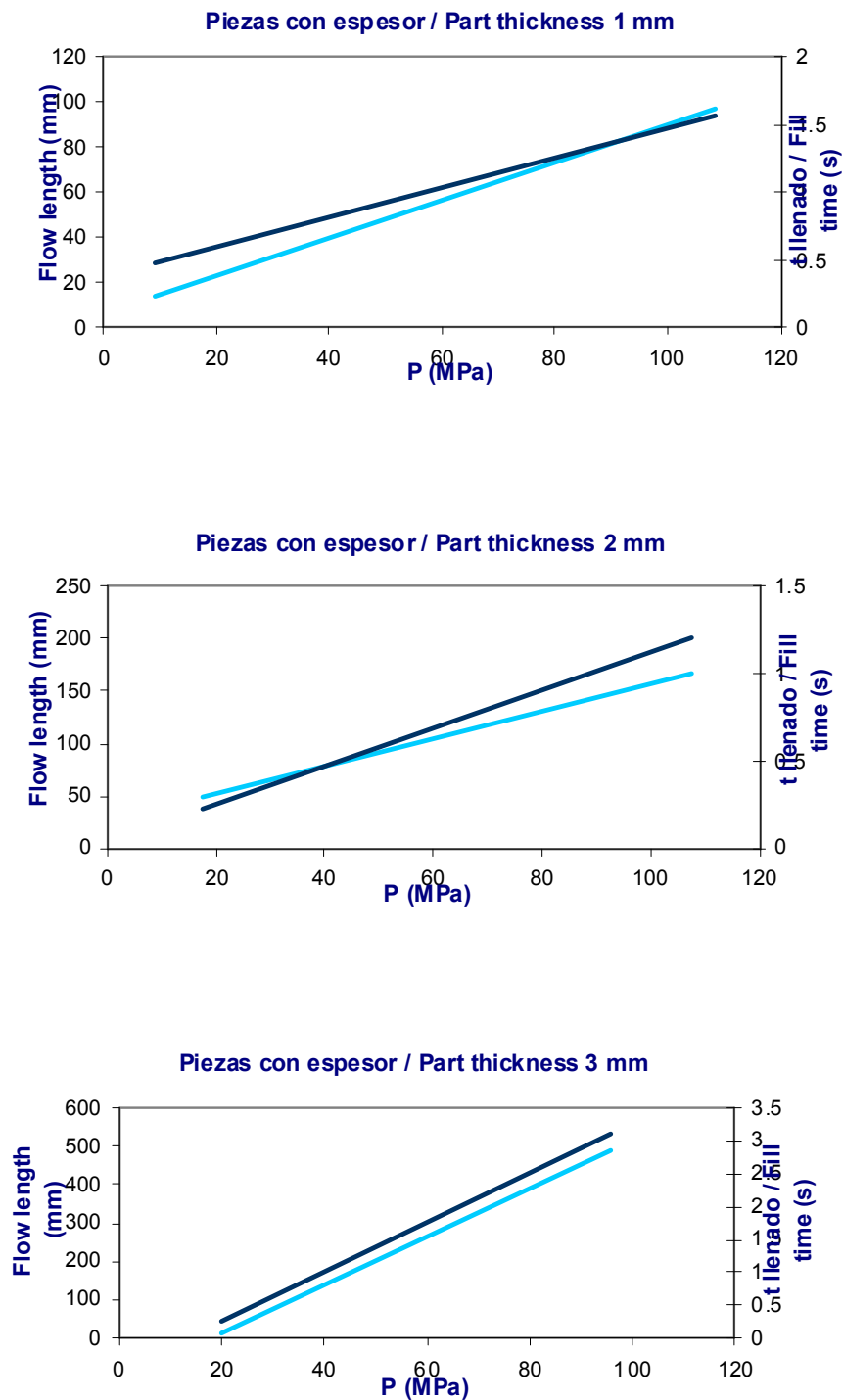


Piezas con espesor / Part thickness 3 mm



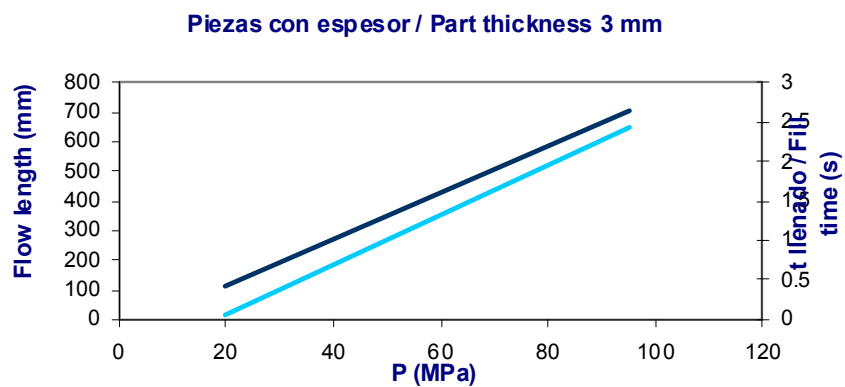
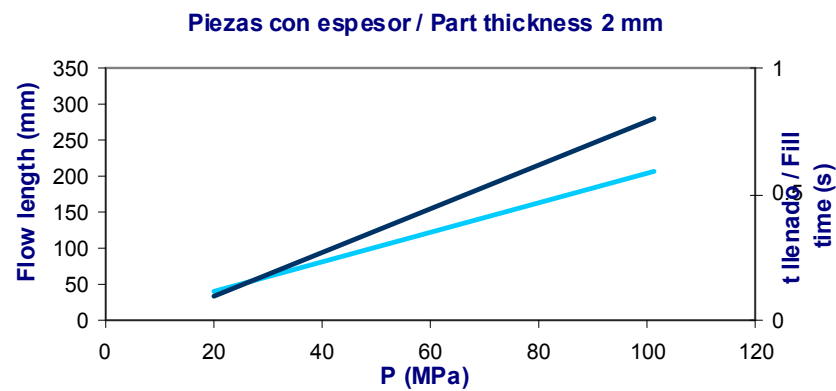
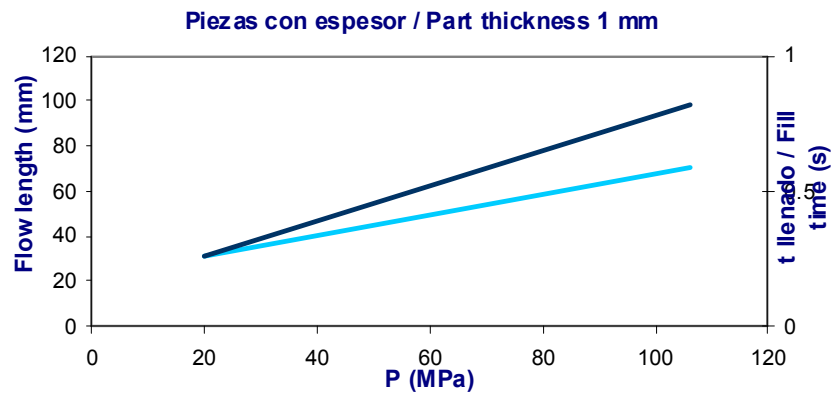
POM

Flow length
t llenado / Fill time



PPE/PA

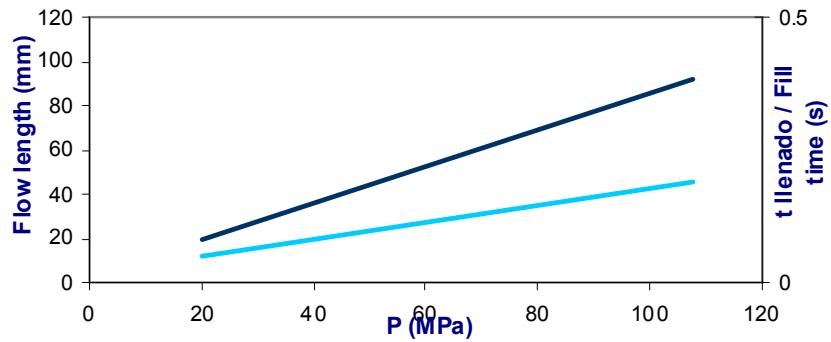
Flow length
t llenado / Fill time



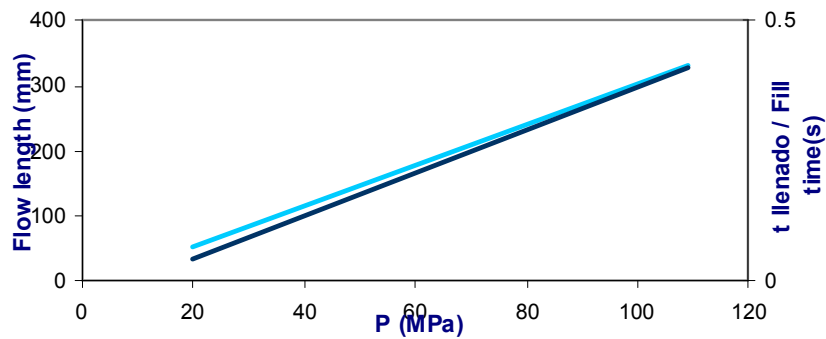
PPE/PS

Flow length
t llenado / Fill time

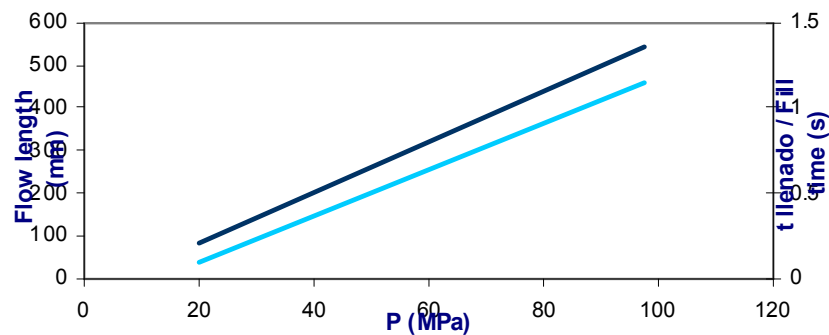
Piezas con espesor / Part thickness 1 mm



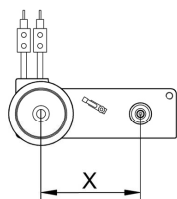
Piezas con espesor / Part thickness 2 mm



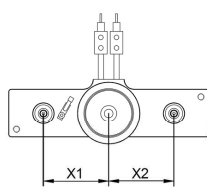
Piezas con espesor / Part thickness 3 mm



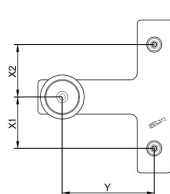
CSI/ESV.MAN 1P/X



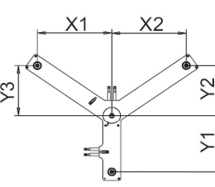
CSI/ESV.MAN 2PL
/X1-X2



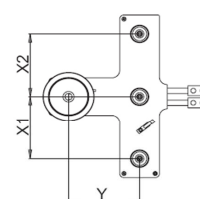
CSI/ESV.MAN 2PT
/X1-X2/Y



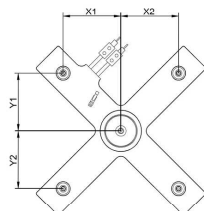
CSI/ESV.MAN 3PY
/X1-X2/Y1-Y2



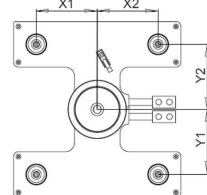
CSI/ESV.MAN 3PL
/X1-X2/Y



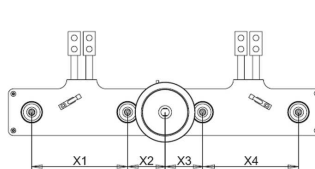
CSI/ESV.MAN 4PX
/X1-X2/Y1-Y2



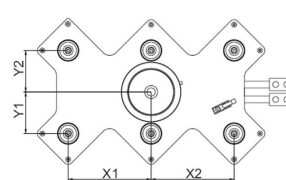
CSI/ESV.MAN 4PH
/X1-X2/Y1-Y2



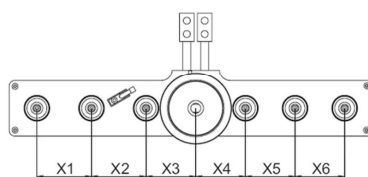
CSI/ESV.MAN 4PL
/X1-X2-X3-X4



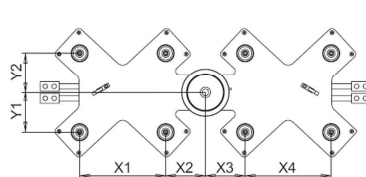
CSI/ESV.MAN 6PY
/X1-X2/Y1-Y2



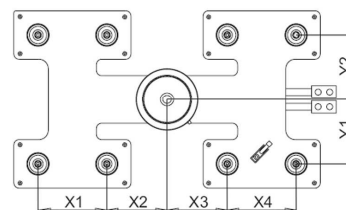
CSI/ESV.MAN 6PL
/X1-X2-X3-X4



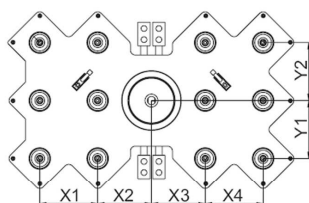
CSI/ESV.MAN 8PX
/X1-X2-X3-X4/Y1-Y2



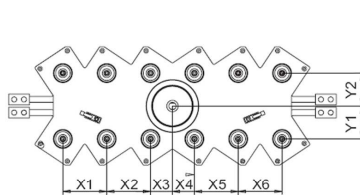
CSI/ESV.MAN 8PH
/X1-X2-X3-X4/Y1-Y2



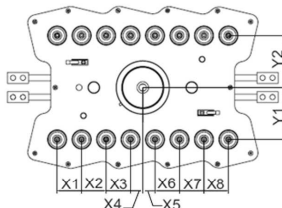
CSI/ESV.MAN 12PY
/X1-X2-X3-X4/Y1-Y2



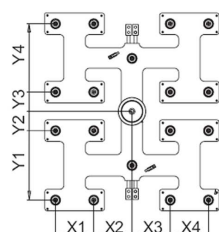
CSI/ESV.MAN 12PX
/X1-X2-X3-X4-X5-X6/Y1-Y2



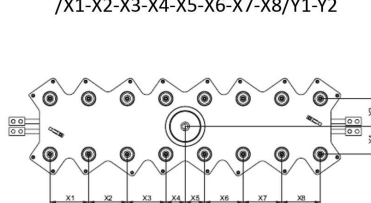
CSI/ESV.MAN 16PX
/X1-X2-X3-X4-X5-X6-X7-X8/Y1-Y2



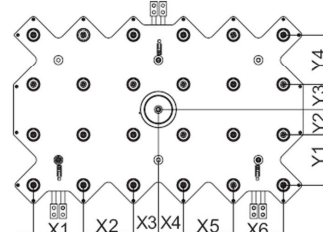
CSI/ESV.MAN 16PH
/X1-X2-X3-X4/Y1-Y2-Y3-Y4



CSI/ESV.MAN 24PX
/X1-X2-X3-X4-X5-X6-X7-X8/Y1-Y2



CSI/ESV.MAN 24PH
/X1-X2-X3-X4-X5-X6/Y1-Y2-Y3-Y4

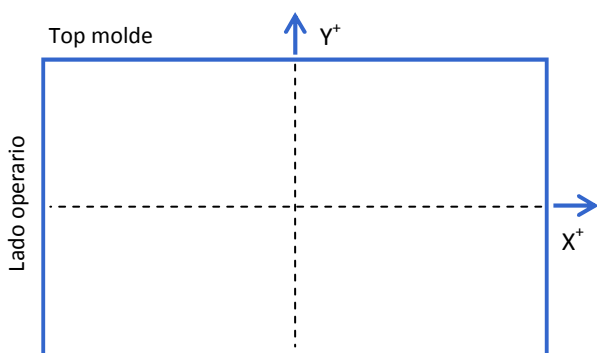


Cliente / Customer: _____
Persona de contacto / Contact: _____
E-mail: _____
Usuario final / Final customer: _____

Fecha / Date: _____
Tel.: _____
Fax: _____

INFORMACIÓN DE LA PIEZA / PART INFORMATION

Nombre de la pieza / Part name: _____ Ref. Mold. _____
Material: _____ + Aditivos / Fillers ____% ____
Peso de la pieza / Part weight (g): _____ Espesor medio pieza / Part Thickness (mm): _____
Dimensiones pieza / Part dimensions: _____ Cambios de color / Colour changes Si/Yes ____ No ____



Dibujar esquema cámara caliente y situación de las boquillas
Drawing hot runner system and drops situation

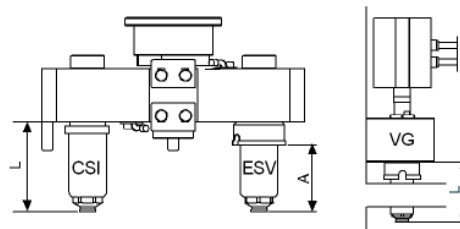
X1 = _____ Y1 = _____
X2 = _____ Y2 = _____
X3 = _____ Y3 = _____
X4 = _____ Y4 = _____
X5 = _____ Y5 = _____
X6 = _____ Y6 = _____
X7 = _____ Y7 = _____
X8 = _____ Y8 = _____

SISTEMA

Sistema / System ☐ ESV ☐ CSI ☐
Inyección Directa / Direct Injection ☐
Inyección a ramal / Non cosmetic Injection ☐
Obturación / Valve gate Si / Yes ☐ No ☐
Pneumatic ☐ Hydraulic ☐
Realizar Moldflow Si / Yes ☐ No ☐

Nº Cavidades

Nº Cavities



*Cota A en serie ESV. A height in ESV series

*Cota L para serie CSI y VG. L height in CSI and VG

Serie / Serie	Cota A / L	Cantidad / Quantity

AJUSTE DE MÁQUINA / MACHINE RADIUS

70° ☐ R35 ☐ R19 ☐ Otro / Another _____

CONEXIONADO / CONNECTORS

10 pins ☐ 16 pins ☐ 24 pins ☐

DATOS DEL MOLDE / MOULD INFORMATION

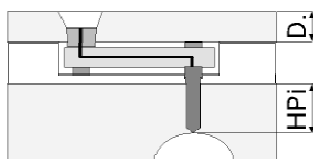
MONOBLOCK SYSTEM Si / Yes ____ No ____

D (mm) _____

Hpi (mm) _____

Molde estándar / Standard mould Si / Yes ____ No ____

Dimensiones / Size (X*Y mm) _____



OBSERVACIONES / OBSERVATIONS

Cliente / Customer: _____

Fecha / Date: _____

Persona de contacto / Contact: _____

Tel.: _____

E-mail: _____

Fax: _____

Usuario final / Final customer: _____

INFORMACIÓN DE LA PIEZA / PART INFORMATION

Nombre de la pieza / Part name: _____ Ref. Mold. _____

Material: _____ + Aditivos / Fillers ____%

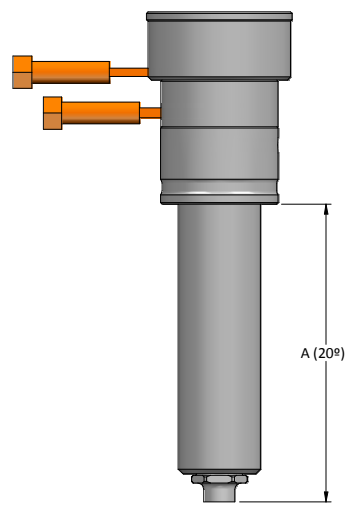
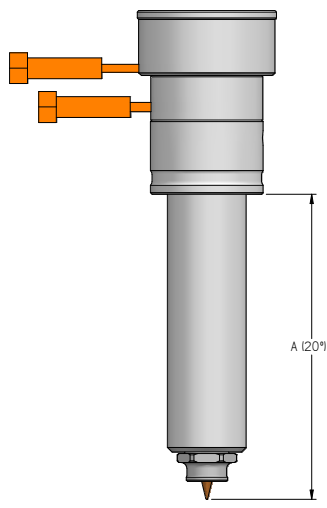
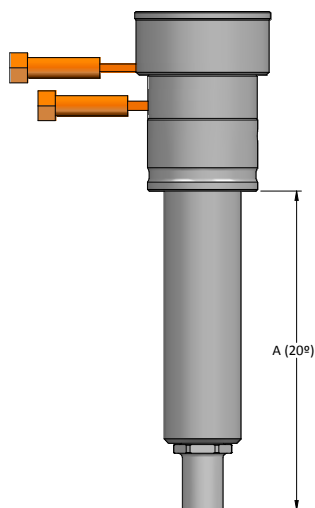
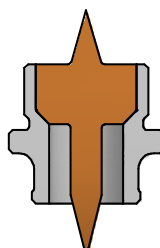
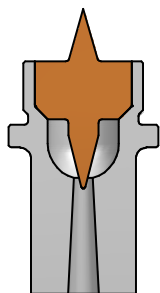
Peso de la pieza / Part weight (g): _____ Espesor medio pieza / Part Thickness (mm): _____

Dimensiones pieza / Part dimensions: _____ Cambios de color / Colour changes Si/Yes ____ No ____

Serie boquilla / Nozzle:

ZS ☐ ZN ☐ ZK ☐

Tipo puntera / Gate selection:



Cota A _____

Cantidad / Quantity _____

Ajuste de máquina / Machine Radius 70° ☐ R35 ☐ R19 ☐ Otro/Another _____

Conexionado / Connectors 10pins ☐ 16pins ☐ 24pins ☐

Sistemas de inyección por canal caliente / Hot Runner System

