



Series 6300

Pneumatic grippers from the 6300 series are typically used in complex systems such as assembly machines, robots, manipulators etc. This series covers the wide range requirements of this sector, allowing a variety of applications.
The range includes grippers equipped with holding fingers operating from -10° to +30° degrees, with 180° degree opening, or a parallel guided gripper with great rigidity throughout the stroke.
The parallel grippers cater for larger openings (three different strokes for each diameter) with synchronised operation via a pinion-rack system with high strength thanks to a double piston mechanism.
For the typical application of supplying a piece upon to a machine tool, make provision for an automatic three-pronged movement carried along by a wedge mechanism, containing the elevated force dimensions.
The holding fingers can have a tolerance reference as a precise fixing device for the catching mechanism.
Every type of "hand" offers different functional levels of performance at varying diameters and lengths, secondary to the application by the "fingers".

Construction characteristics

	Materials	Series					
Body	Anodized aluminium	6301	6302	6303	6310	6311	6312
Piston	AISI 303 stainless steel	6301	/	/	/	/	/
	Aluminium	/	6302	6303	/	6311	6312
	Aluminium or stainless steel	/	/	/	6310	/	/
	(based on bore)						
Fingers	Steel	6301	6302	6303	6310	/	6312
	Anodized aluminium	/	/	/	/	6311	/
Rear end cap	Anodized aluminium	6301	6302	6303	6310	/	/
Seals	oil resistant NBR rubber	6301	/	/	6310	/	/
Piston rod	Steel	/	/	/	/	6311	/
Rack	Steel	/	/	/	/	6311	/
Pinion	Steel	/	/	/	/	6311	/
Wedge	Steel	/	/	/	/	/	6312

Operational characteristics

All series	
Fluid	filtered and preferably lubricated air or not (if lubricated the lubrication must be continuous)
Working pressure	1 ... 6 bar (double acting) - 2.5 ... 6 bar (single acting)
Working temperature	-5 °C ... +70 °C

	6301	6302	6303	6310	6311	6312
Opening total stroke	-10° ... 30°	-3° ... 180°	-5° ... 180°	/	/	/
Maximum operating frequency	from Ø10 to Ø25, 190 cycles/minute	from Ø10 to Ø25, 60 cycles/minute	from Ø20 to Ø25, 60 cycles/minute from Ø32 to Ø50, 30 cycles/minute	from Ø10 to Ø25, 180 cycles/minute	/	from Ø16 to Ø25, 120 cycles/minute from Ø32 to Ø63, 60 cycles/minute from Ø80 to Ø125, 30 cycles/minute
Working pressure	/	/	/	/	Ø10: 1.5 ... 6 bar Ø16 ... Ø40: 1 ... 6 bar	2 ... 6 bar (Ø16-Ø20-Ø25) 1 ... 6 bar (Ø32 ... Ø125)
Function	/	/	/	/	Double acting	Double acting

6301			
	Bore	Double acting	Single acting
Holding force (Nm) at 5 bar	Ø10	0,1	0,07
	Ø16	0,4	0,30
	Ø20	0,7	0,55
	Ø25	1,35	1,08



Parallel style pneumatic grippers - Wide opening

Coding: 6311.Ø.D.●

Overall dimensions

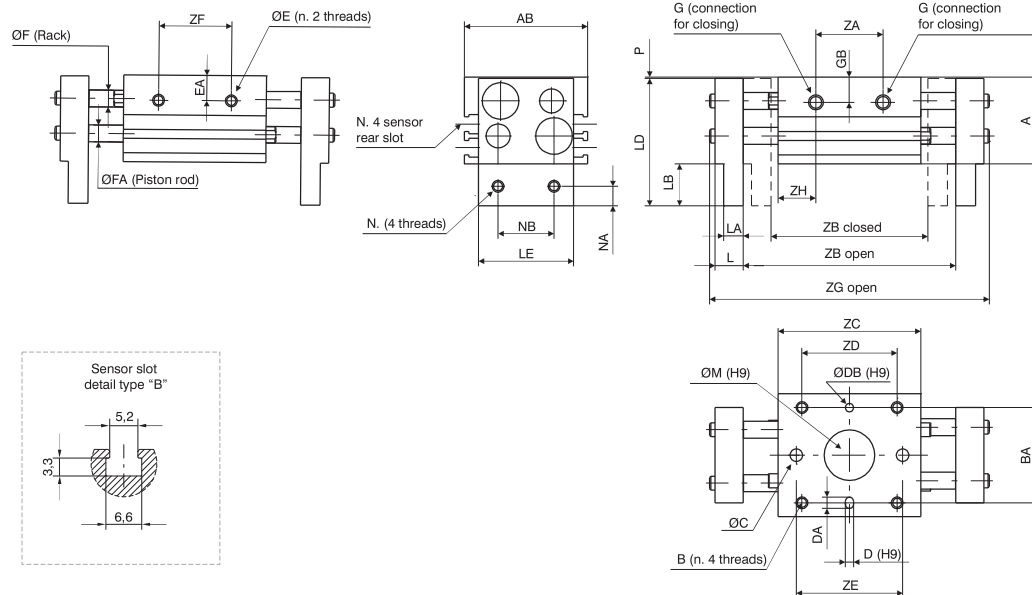
Ø	BORE
	10 = Ø10
	16 = Ø16
	20 = Ø20
	25 = Ø25
	32 = Ø32
●	40 = Ø40
	STROKE
	= 20 mm (Ø10), 30 mm (Ø16), 40 mm (Ø20), 50 mm (Ø25), 70 mm (Ø32), 100 mm (Ø40)
	1 = 40 mm (Ø10), 60 mm (Ø16), 80 mm (Ø20), 100 mm (Ø25), 120 mm (Ø32), 160 mm (Ø40)
	2 = 60 mm (Ø10), 80 mm (Ø16), 100 mm (Ø20), 120 mm (Ø25), 160 mm (Ø32), 200 mm (Ø40)

Coding examples:

6311.10.D (Stroke 20 mm, Ø10)

6311.10.D.1 (Stroke 40 mm, Ø10)

6311.10.D.2 (Stroke 60 mm, Ø10)



Bore		Ø10			Ø16			Ø20			Ø25			Ø32			Ø40		
A		31			39			46			52			68			79		
AB		44			55			65			76			82			98		
B		M4x0,7			M5x0,8			M6x1			M8x1,25			M8x1,25			M10x1,5		
	Useful depth	8			10			12			16			16			20		
BA		34			42			52			62			64			76		
OC		4,5			5,5			6,6			9			/			/		
D ^{H9}		3			3			4			4			6			6		
	Useful depth	3			3			4			4,5			8			8		
DA		4			4			5			5			7			7		
ØDB ^{H9}		3			3			4			4			6			6		
	Useful depth	3			3			4			4,5			8			8		
E		M4x0,7			M5x0,8			M6x1			M8x1,25			M8x1,25			M10x1,5		
	Useful depth	5			7			7			7			11			16		
EA		9			10			11			12,5			22			28		
ØF		6			8			10			12			14			16		
FA		6			8			10			12			16			20		
G		M5x0,8			M5x0,8			M5x0,8			M5x0,8			G1/8			G1/8		
GB		9			10			11			16			16			18		
L		10			13			17			21			24			28		
LA		7			9			12,5			14			15			18		
LB		15			19			24			29			32			38		
LD		45,5			57,5			69			80			100			117		
LE		34			43			54			64			70			86		
OM ^{H9}		18			23			27			32			35			40		
	Useful depth	1,5			1,5			1,5			1,5			1,5			1,5		
N		M4x0,7			M5x0,8			M6x1			M8x1,25			M10x1,5			M10x1,5		
NO		7			8			10			12			15			18		
NB		20			25			30			40			50			60		
P		0,5			0,5			1			1			1			1		
ZA		24	39	57	26	50	70	32	68	88	38	86	104	54	104	148	72	130	170
ZB	closed	56	78	96	68	110	130	82	142	162	100	182	200	150	198	242	188	246	286
	open	76	118	156	98	170	210	122	222	262	150	282	320	220	318	402	288	406	486
ZC		51	67	85	60	90	110	71	113	133	88	142	160	110	158	202	148	206	246
ZD		36	52	70	45	75	95	58	100	120	70	124	142	86	134	178	116	174	214
ZE		38	54	72	40	70	90	54	96	116	66	120	138	/	/	/	/	/	/
ZF		26	42	60	28	58	78	38	80	100	48	102	120	60	108	152	80	138	178
ZG	open	100	142	180	128	200	240	160	260	300	196	328	366	272	370	454	348	466	546
ZH		13,5	14	14	17	20	20	19,5	22,5	22,5	25	28	28	28	27			38	
Weight (g)		280	350	430	600	800	950	1000	1500	1700	1700	2500	2800	2900	3800	4700	5300	6850	7900
		20	40	60	30	60	80	40	80	100	50	100	120	70	120	160	100	160	200
Stroke																			

Model	Diameter (mm)	Max. operating frequency cycles/min.
6311.10.D	10	60
6311.10.D.1		40
6311.10.D.2		
6311.16.D	16	60
6311.16.D.1		40
6311.16.D.2		
6311.20.D	20	60
6311.20.D.1		40
6311.20.D.2		
6311.25.D	25	60
6311.25.D.1		40
6311.25.D.2		
6311.32.D	32	30
6311.32.D.1		20
6311.32.D.2		
6311.40.D	40	30
6311.40.D.1		20
6311.40.D.2		

Operating criteria

Gripping force

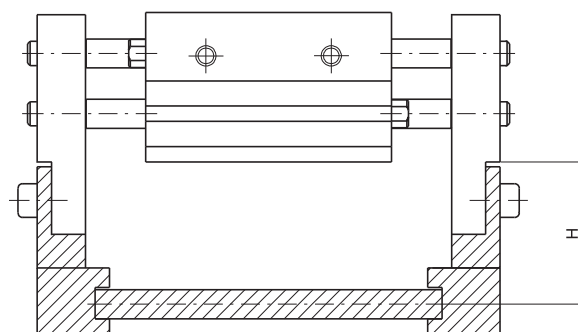
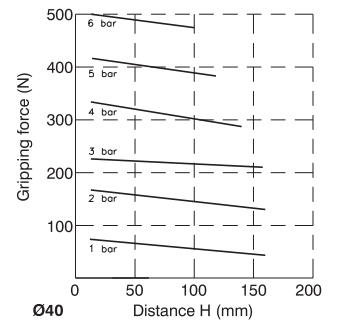
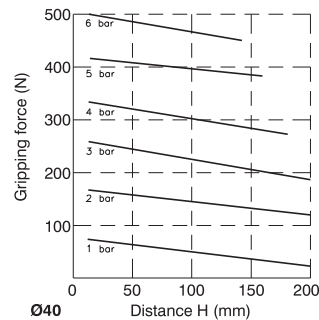
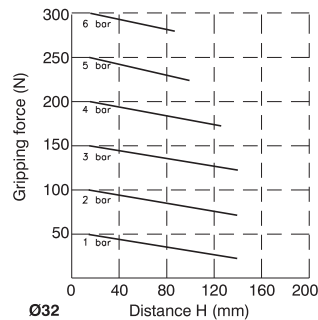
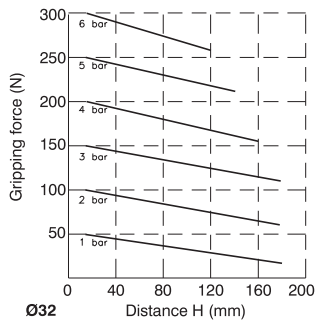
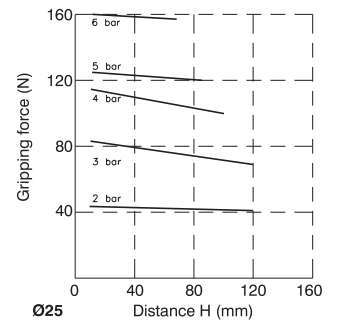
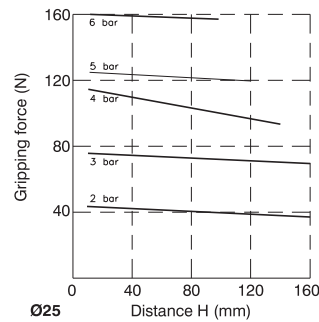
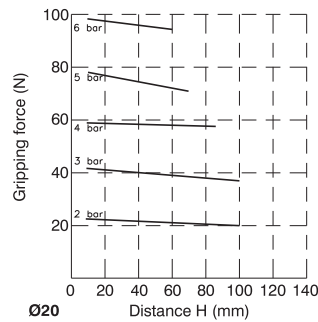
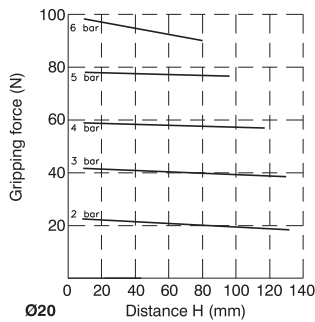
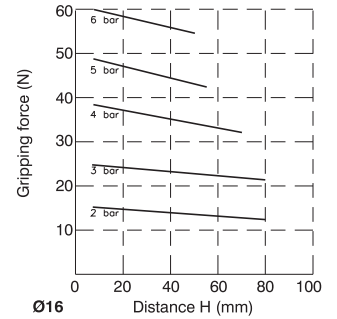
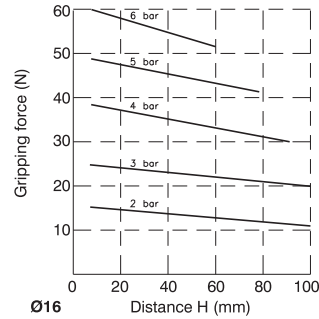
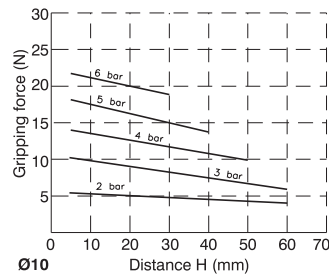
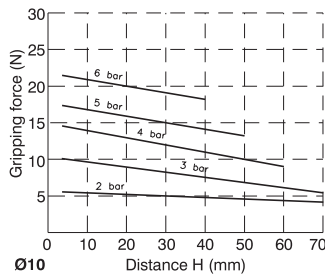
Opening / closing stroke

Basic version

Versions 1 and 2

Basic version

Versions 1 and 2



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PNEUMATIC ACTUATION