MANN+HUMMEL Accessories for air cleaners

The right accessories for each air cleaner

The reliable operation of intake air cleaners for internal combustion engines and compressors must also be ensured under the most difficult operating conditions. This is only possible if the air cleaner and the accessories are perfectly matched to each other.

MANN+HUMMEL offers a comprehensive range of accessories for all air cleaners especially designed for the respective type of air cleaner. These are proven products which offer reliability and long life in numerous applications – also under the hardest operating conditions.

Brackets for the Europiclon®

The brackets are especially designed for the external surface of the Europiclon® housing and allow vibration-free mounting of the air cleaner. From size 700 it is necessary to use two brackets.

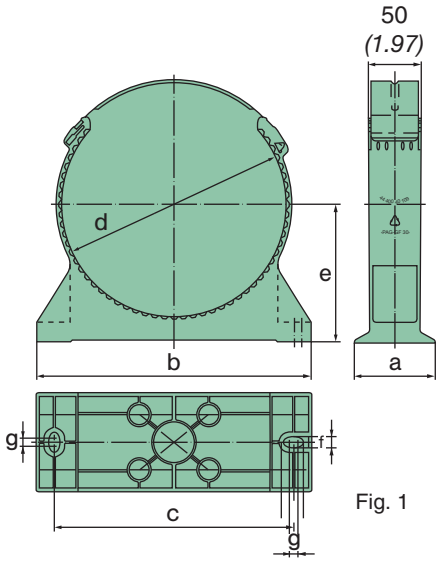


Fig. 1

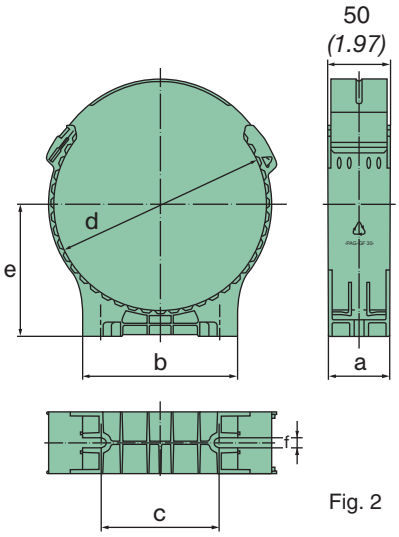


Fig. 2

Part No.	Suitable for Europiclon®	Fig.	Dimensions in mm *(dimensions in inches)*						
			a	b	c	d	e	f	g
39 050 40 959	**44 05. 92 ...**	1	40 *(1.57)*	137 *(5.39)*	116 *(4.57)*	122 *(4.80)*	85.7 *(3.37)*	9 *(0.35)*	–
39 100 40 999	**44 100 92 ...**	1	60 *(2.36)*	205 *(8.07)*	175 *(6.89)*	156 *(6.14)*	105 *(4.13)*	8.5 *(0.33)*	15.5 *(0.61)*
39 200 40 999	**45 200 92 ...**	1	80 *(3.15)*	220 *(8.66)*	190 *(7.48)*	171 *(6.73)*	110 *(4.33)*	8.5 *(0.33)*	15.5 *(0.61)*
39 300 40 999	**45 300 92 ...**	1	80 *(3.15)*	250 *(9.84)*	220 *(8.66)*	201 *(7.91)*	125 *(4.92)*	8.5 *(0.33)*	15.5 *(0.61)*
39 400 40 999	**45 400 92 ...**	1	80 *(3.15)*	270 *(10.63)*	240 *(9.45)*	221 *(8.70)*	135 *(5.32)*	8.5 *(0.33)*	15.5 *(0.61)*
39 500 40 999	**45 500 92 ...**	1	80 *(3.15)*	310 *(12.20)*	280 *(11.02)*	262 *(10.32)*	155 *(6.10)*	8.5 *(0.33)*	15.5 *(0.61)*
39 600 40 999	**45 600 92 ...**	1	80 *(3.15)*	345 *(13.58)*	315 *(12.40)*	296 *(11.65)*	173 *(6.81)*	8.5 *(0.33)*	15.5 *(0.61)*
39 700 40 999	**45 700 92 ...**	1	80 *(3.15)*	385 *(15.16)*	355 *(13.98)*	326 *(12.83)*	206 *(8.11)*	8.5 *(0.33)*	7.0 *(0.28)*
39 800 40 999	**45 800 92 ...**	1	80 *(3.15)*	452 *(17.80)*	422 *(16.61)*	391 *(15.39)*	220 *(8.66)*	8.5 *(0.33)*	7.0 *(0.28)*
39 100 40 989	**44 100 92 ...**	2	50 *(1.97)*	110 *(4.33)*	80 *(3.15)*	156 *(6.14)*	100 *(3.94)*	8.5 *(0.33)*	–
39 200 40 989	**45 200 92 ...**	2	50 *(1.97)*	125 *(4.92)*	95 *(3.74)*	171 *(6.73)*	106 *(4.17)*	8.5 *(0.33)*	–
39 300 40 989	**45 300 92 ...**	2	50 *(1.97)*	140 *(5.51)*	110 *(4.33)*	201 *(7.91)*	121 *(4.76)*	8.5 *(0.33)*	–
39 400 40 989	**45 400 92 ...**	2	50 *(1.97)*	157 *(6.18)*	127 *(5.00)*	221 *(8.70)*	132 *(5.20)*	8.5 *(0.33)*	–
39 500 40 989	**45 500 92 ...**	2	50 *(1.97)*	182 *(7.17)*	152 *(5.98)*	262 *(10.32)*	153 *(6.02)*	8.5 *(0.33)*	–
39 600 40 989	**45 600 92 ...**	2	50 *(1.97)*	182 *(7.17)*	152 *(5.98)*	296 *(11.65)*	173 *(6.81)*	8.5 *(0.33)*	–
39 700 40 989	**45 700 92 ...**	2	50 *(1.97)*	233 *(9.17)*	203 *(7.99)*	326 *(12.83)*	206 *(8.11)*	8.5 *(0.33)*	–
39 800 40 989	**45 800 92 ...**	2	50 *(1.97)*	233 *(9.17)*	203 *(7.99)*	391 *(15.39)*	221 *(8.70)*	8.5 *(0.33)*	–

Brackets for the Piclon

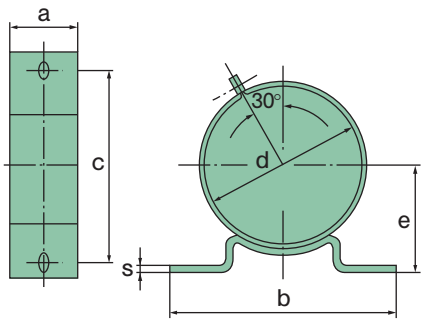


Fig. 1

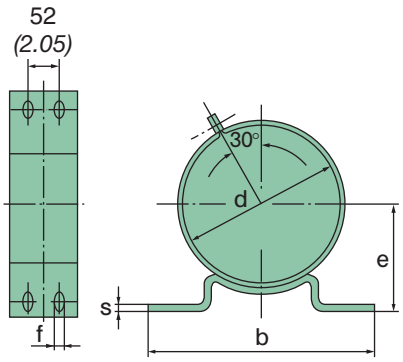


Fig. 2

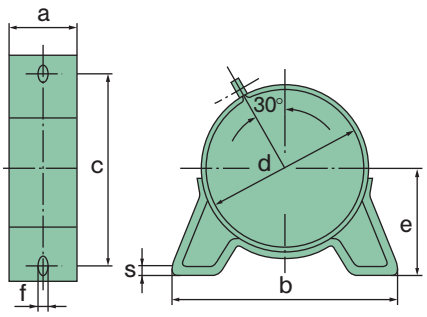


Fig. 3

Part No.	Suitable for Piclon	Fig.	Dimensions in mm *(dimensions in inches)*							Approx. weight [kg]
			a	b	c	d	e	f	s	
39 014 38 990	**45 043 92...**	1	40 *(1.57)*	170 *(6.69)*	130 *(5.12)*	120 *(4.72)*	70 *(2.76)*	10 *(0.39)*	2.5 *(0.10)*	0.6
39 076 38 970	**45 076 92...**	1	20 *(0.79)*	190 *(7.48)*	150 *(5.91)*	140 *(5.51)*	80 *(3.15)*	10 *(0.39)*	3 *(0.12)*	0.3
39 114 38 970	**45 114 92...**	1	20 *(0.79)*	220 *(8.66)*	180 *(7.09)*	165 *(6.50)*	100 *(3.94)*	10 *(0.39)*	3 *(0.12)*	0.3
39 165 38 970	**45 165 92...**	1	40 *(1.57)*	240 *(9.45)*	200 *(7.87)*	195 *(7.68)*	125 *(4.92)*	10 *(0.39)*	3 *(0.12)*	0.6
39 165 38 960	**45 165 92...**	3	40 *(1.57)*	250 *(9.84)*	200 *(7.87)*	195 *(7.68)*	125 *(4.92)*	10 *(0.39)*	3 *(0.12)*	0.7
39 225 38 970	**45 225 92...**	1	40 *(1.57)*	240 *(9.45)*	200 *(7.87)*	215 *(8.46)*	130 *(5.12)*	10 *(0.39)*	3 *(0.12)*	0.6
39 325 38 970	**45 325 92...**	1	40 *(1.57)*	280 *(11.02)*	240 *(9.45)*	255 *(10.04)*	145 *(5.71)*	12 *(0.47)*	3 *(0.12)*	0.8
39 440 38 970	**45 440 92...**	1	40 *(1.57)*	310 *(12.20)*	270 *(10.63)*	290 *(11.42)*	165 *(6.50)*	12 *(0.47)*	3 *(0.12)*	0.9
39 440 38 941	**45 440 92...**	3	40 *(1.57)*	322 *(12.68)*	270 *(10.63)*	290 *(11.42)*	165 *(6.50)*	12 *(0.47)*	3 *(0.12)*	1.0
39 120 38 980	**45 650 92...**	1	40 *(1.57)*	310 *(12.20)*	270 *(10.63)*	320 *(12.60)*	185 *(7.28)*	12 *(0.47)*	3 *(0.12)*	1.0
45 650 38 761	**45 650 92...**	3	40 *(1.57)*	322 *(12.68)*	270 *(10.63)*	320 *(12.60)*	185 *(7.28)*	12 *(0.47)*	3 *(0.12)*	1.1
39 880 38 990	**45 880 92...**	3	40 *(1.57)*	340 *(13.39)*	270 *(10.63)*	385 *(15.16)*	220 *(8.66)*	12 *(0.47)*	3 *(0.12)*	1.0
45 920 38 990	**45 920 92...**	2	80 *(3.15)*	420 *(16.54)*	380 *(14.96)*	420 *(16.54)*	235 *(9.25)*	12 *(0.47)*	3 *(0.12)*	2.3
44 940 38 991	**44 940 92...**	3	40 *(1.57)*	480 *(18.90)*	420 *(16.54)*	540 *(21.26)*	284 *(11.18)*	14 *(0.55)*	3 *(0.12)*	2.0

Brackets for the Pico-E

Part No.	Suitable for Pico-E	Fig.	Dimensions in mm *(dimensions in inches)*							Approx. weight [kg]
			a	b	c	d	e	f	s	
45 076 38 980	**44 076 75 204**	1	40 *(1.57)*	190 *(7.48)*	150 *(5.91)*	130 *(5.12)*	75 *(2.95)*	10 *(0.39)*	3 *(0.18)*	0.7
45 114 38 990	**44 114 75 204**	1	60 *(2.36)*	190 *(7.48)*	150 *(5.91)*	150 *(5.91)*	85 *(3.35)*	10 *(0.39)*	3 *(0.18)*	0.7
45 165 38 980	**44 165 75 204**	1	60 *(2.36)*	220 *(8.66)*	180 *(7.09)*	170 *(6.69)*	110 *(4.33)*	10 *(0.39)*	3 *(0.18)*	0.8
45 225 38 990	**44 225 75 204**	1	80 *(3.15)*	240 *(9.45)*	200 *(7.87)*	190 *(7.48)*	125 *(4.92)*	10 *(0.39)*	3 *(0.18)*	1.0
39 056 38 980	**44 325 75 204**	1	80 *(3.15)*	280 *(11.02)*	240 *(9.45)*	240 *(9.45)*	130 *(5.12)*	12 *(0.47)*	3 *(0.18)*	1.5
45 440 38 990	**44 440 75 204**	2	80 *(3.15)*	310 *(12.20)*	270 *(10.63)*	270 *(10.63)*	155 *(6.10)*	12 *(0.47)*	3 *(0.18)*	1.6
39 440 38 990	**44 650 75 204**	2	80 *(3.15)*	310 *(12.20)*	270 *(10.63)*	290 *(11.42)*	165 *(6.50)*	12 *(0.47)*	3 *(0.18)*	1.7
39 880 38 940	**44 880 75 204**	2	80 *(3.15)*	310 *(12.20)*	270 *(10.63)*	345 *(13.58)*	195 *(7.68)*	12 *(0.47)*	3 *(0.18)*	1.9
45 880 38 990	**44 920 75 204**	2	80 *(3.15)*	310 *(12.20)*	270 *(10.63)*	370 *(14.57)*	210 *(8.27)*	12 *(0.47)*	3 *(0.18)*	2.0
45 940 38 841	**45 950 75 104**	3	45 *(1.77)*	580 *(22.83)*	520 *(20.47)*	610 *(24.02)*	325 *(12.80)*	14 *(0.55)*	3 *(0.18)*	3.5

Brackets for the oil-bath air cleaners

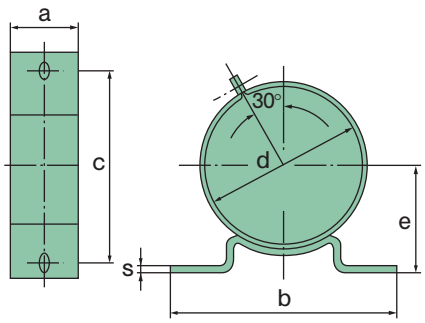


Fig. 1

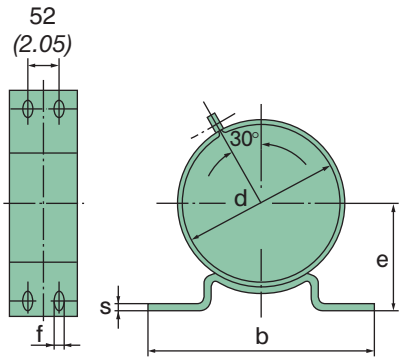
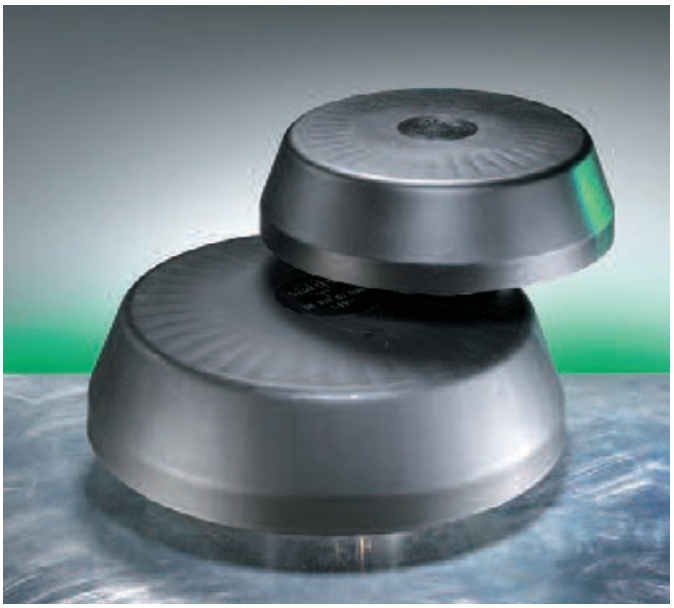


Fig. 2

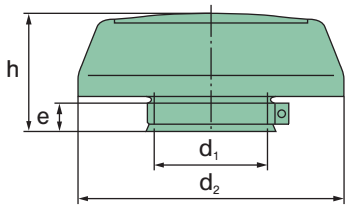
Part No.	Suitable for Oil-bath air cleaners	Fig.	Dimensions in mm *(dimensions in inches)*							Approx. weight [kg]
			a	b	c	d	e	f	s	
39 020 38 981	**31 020... and 31 024...**	1	60 *(2.36)*	190 *(7.48)*	150 *(5.91)*	140 *(5.51)*	80 *(3.15)*	12 *(0.47)*	3 *(0.12)*	0.7
39 028 38 981	**31 028... and 31 034...**	1	60 *(2.36)*	220 *(8.66)*	180 *(7.09)*	173 *(6.81)*	110 *(4.33)*	12 *(0.47)*	3 *(0.12)*	0.8
39 040 38 981	**31 040... and 31 045...**	1	80 *(3.15)*	240 *(9.45)*	200 *(7.87)*	200 *(7.87)*	130 *(5.12)*	12 *(0.47)*	3 *(0.12)*	1.4
39 056 38 980	**31 056... and 31 068...**	1	80 *(3.15)*	280 *(11.02)*	240 *(9.45)*	240 *(9.45)*	130 *(5.12)*	14 *(0.55)*	3 *(0.12)*	1.5
39 080 38 991	**31 080...**	2	80 *(3.15)*	310 *(12.20)*	270 *(10.63)*	280 *(11.02)*	160 *(6.30)*	14 *(0.55)*	3 *(0.12)*	1.7
39 100 38 991	**31 100... and 31 120...**	2	80 *(3.15)*	310 *(12.20)*	270 *(10.63)*	320 *(12.60)*	185 *(7.28)*	14 *(0.55)*	3 *(0.12)*	1.9
39 160 38 991	**31 160... and 31 190...**	2	80 *(3.15)*	310 *(12.20)*	270 *(10.63)*	400 *(15.75)*	225 *(8.98)*	14 *(0.55)*	3 *(0.12)*	2.2

One bracket is required per air cleaner.

Rain caps – Design A



In order to effectively prevent ingress of rain, snow, spray water, etc., MANN+HUMMEL recommends equipping the air cleaner with a rain cap. Since this also protects the air cleaner against coarse contaminant particles, the main element is less exposed to damage and this extends the service interval.



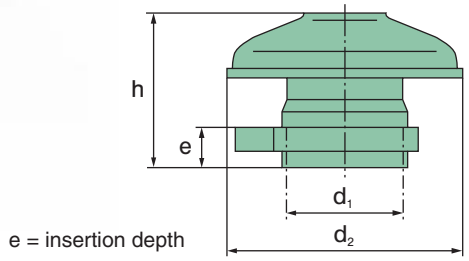
e = insertion depth

Part No.	Suitable for					Dimensions in mm *(dimensions in inches)*				Approx. weight [kg]
	Europiclon®	NLG	Piclon	Pico-E	Oil-bath air cleaner	d_1	d_2	e	h	
39 014 67 910 [1]	**44 050 ...**	–	**45 043 ...**	–	**31 014 ...** **31 017 ...**	45 *(1.77)*	150 *(5.91)*	22 *(0.87)*	63 *(2.48)*	0.11
39 020 67 910 [1]	**44 100 ...**	–	**45 076 ...**	–	**31 020 ...** **31 024 ...**	54 *(2.13)*	150 *(5.91)*	22 *(0.87)*	63 *(2.48)*	0.11
39 028 67 910 [1]	**45 200 ...**	–	**45 114 ...**	**44 076 ...**	**31 028 ...** **31 034 ...**	62 *(2.44)*	150 *(5.91)*	22 *(0.87)*	63 *(2.48)*	0.11
39 040 67 910 [1]	**45 300 ...**	–	**45 165 ...**	**44 114 ...**	**31 040 ...** **31 045 ...**	68 *(2.68)*	200 *(7.87)*	30 *(1.18)*	85 *(3.35)*	0.23
39 056 67 910 [1]	**45 400 ...**	–	**45 225 ...**	**44 165 ...**	**31 056 ...** **31 068 ...**	82 *(3.23)*	200 *(7.87)*	30 *(1.18)*	85 *(3.35)*	0.23
39 080 67 910 [1]	**45 500 ...**	–	**45 325 ...**	**44 225 ...**	**31 080 ...**	102 *(4.02)*	270 *(10.63)*	40 *(1.57)*	115 *(4.53)*	0.44
39 100 67 910 [1]	**45 600 ...**	–	**45 440 ...**	**44 325 ...**	**31 100 ...** **31 120 ...**	110 *(4.33)*	270 *(10.63)*	40 *(1.57)*	115 *(4.53)*	0.44
39 160 67 910 [1]	**45 700 ...**	**NLG 15 - ...**	**45 650 ...**	**44 440 ...**	**31 160 ...** **31 190 ...**	132 *(5.20)*	360 *(14.17)*	50 *(1.97)*	150 *(5.91)*	0.90
39 190 67 910 [1]	**45 800 ...**	**NLG 21 - ...**	**45 880 ...**	**44 650 ...**	–	150 *(5.91)*	360 *(14.17)*	50 *(1.97)*	150 *(5.91)*	0.90
39 220 67 910 [1]	–	**NLG 28 - ...**	–	**44 880 ...**	–	180 *(7.09)*	405 *(15.94)*	33 *(1.30)*	128 *(5.04)*	0.95
39 320 67 210 [2]	–	**NLG 37 - ...**	**45 920 ...**	**44 920 ...**	–	210 *(8.27)*	460 *(18.11)*	65 *(2.56)*	190 *(7.48)*	3.00

[1] Plastic model
[2] Metal model

Rain caps – Design B

The rain caps are simply pushed on to the dirty air connection of the air cleaner or onto the air intake of the dirty air pipe and then fastened using the tightening strap supplied. In order to cater for different installation requirements and styling, the rain caps are available in two different versions.



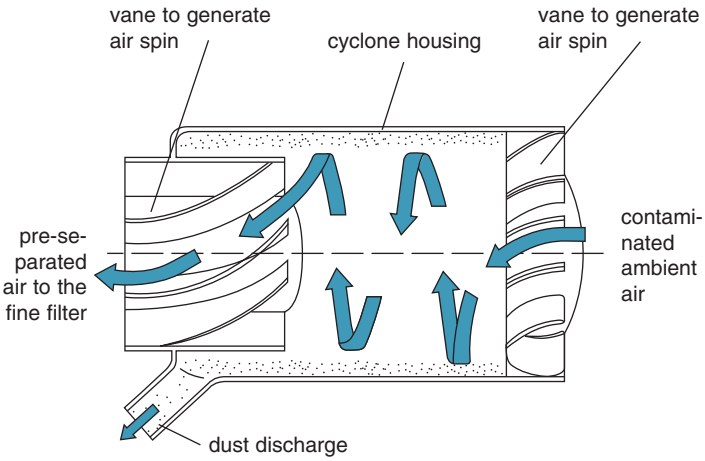
e = insertion depth

Part No.	Suitable for					Dimensions in mm *(dimensions in inches)*				Approx. weight [kg]
	Europiclon®	NLG	Piclon	Pico-E	Oil-bath air cleaner	d_1	d_2	e	h	
39 014 67 900 [1]	**44 050 ...**	**–**	**45 043 ...**	**–**	**31 014 ...** **31 017 ...**	45 *(1.77)*	92 *(3.62)*	22 *(0.87)*	53 *(2.09)*	0.07
39 020 67 900 [1]	**44 100 ...**	**–**	**45 076 ...**	**–**	**31 020 ...** **31 024 ...**	54 *(2.13)*	110 *(4.33)*	22 *(0.87)*	53 *(2.09)*	0.08
39 028 67 900 [1]	**45 200 ...**	**–**	**45 114 ...**	**44 076 ...**	**31 028 ...** **31 034 ...**	62 *(2.44)*	124 *(4.88)*	22 *(0.87)*	56 *(2.20)*	0.11
39 040 67 900 [1]	**45 300 ...**	**–**	**45 165 ...**	**44 114 ...**	**31 040 ...** **31 045 ...**	68 *(2.68)*	145 *(5.71)*	22 *(0.87)*	63 *(2.48)*	0.12
39 056 67 900 [1]	**45 400 ...**	**–**	**45 225 ...**	**44 165 ...**	**31 056 ...** **31 068 ...**	82 *(3.23)*	172 *(6.77)*	22 *(0.87)*	64 *(2.52)*	0.15
39 080 67 900 [1]	**45 500 ...**	**–**	**45 325 ...**	**44 225 ...**	**31 080 ...** **31 100 ...**	102 *(4.02)*	203 *(7.99)*	35 *(1.38)*	90 *(3.54)*	0.18
39 100 67 020 [2]	**45 600 ...**	**–**	**45 440 ...**	**44 325 ...**	**31 120 ...** **31 160 ...**	110 *(4.33)*	236 *(9.29)*	40 *(1.57)*	125 *(4.92)*	0.82
39 160 67 020 [2]	**45 700 ...**	**NLG 15 - ...**	**45 650 ...**	**44 440 ...**	**31 190 ...**	132 *(5.20)*	292 *(11.50)*	40 *(1.57)*	138 *(5.43)*	1.50
45 880 67 100 [2]	**45 800 ...**	**NLG 21 - ...**	**45 880 ...**	**44 650 ...**	**–**	150 *(5.91)*	342 *(13.46)*	40 *(1.57)*	166 *(6.54)*	2.00
39 220 67 100 [2]	**–**	**NLG 28 - ...**	**–**	**44 880 ...**	**–**	180 *(7.09)*	342 *(13.46)*	45 *(1.77)*	163 *(6.42)*	2.20
39 320 67 100 [2]	**–**	**NLG 37 - ...**	**45 920 ...**	**44 920 ...**	**–**	210 *(8.27)*	410 *(16.14)*	87 *(3.43)*	223 *(8.78)*	4.20
39 440 67 100 [2]	**–**	**–**	**44 940 ...**	**–**	**–**	240 *(9.45)*	535 *(21.06)*	85 *(3.35)*	250 *(9.84)*	4.80
39 640 67 100 [2]	**–**	**–**	**–**	**45 950 ...**	**–**	315 *(12.40)*	645 *(25.39)*	86 *(3.39)*	272 *(10.71)*	5.80

[1] Plastic model
[2] Metal model

DualSpin® Precleaners

The DualSpin® precleaner newly developed by MANN+HUMMEL offers excellent separation efficiency with a simultaneous minimal drop in pressure. The special arrangement of both distributors reduces the pressure drop of the precleaners by up to 50%. Generously dimensioned cross-sectional flow areas almost completely prevent clogging – even under unfavourable conditions, such as with harvesting machines. The DualSpin® is the ideal complement to the air cleaners of the NLG line (see page 23), but it can also be combined with other air cleaners (e.g. metal air cleaners).



Working principle of the DualSpin® precleaner

Advantages of the DualSpin® precleaner:

- The highest separation performance (η > 90%, SAE-C) with scavenging is achieved by connecting an exhaust ejector (see page 112), radiator fan or an external blower.
- operation with dust discharge valve possible as a more economic alternative (η > 85%, SAE-C)
- Different distributor inserts are used to adjust the precyclone within a range of 18 m³/min to 50 m³/min ideally to the air requirement of the machine.
- The polygon design of the housing enables use of the proven bracket of the Europiclon® 700 (Part No. 39 700 40 999).

DualSpin®

DualSpin® Precleaners

Dimensions and part numbers

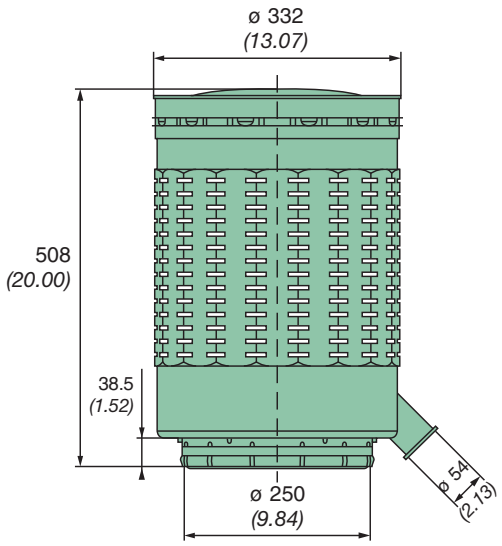


Fig. 1
(Scavenging)

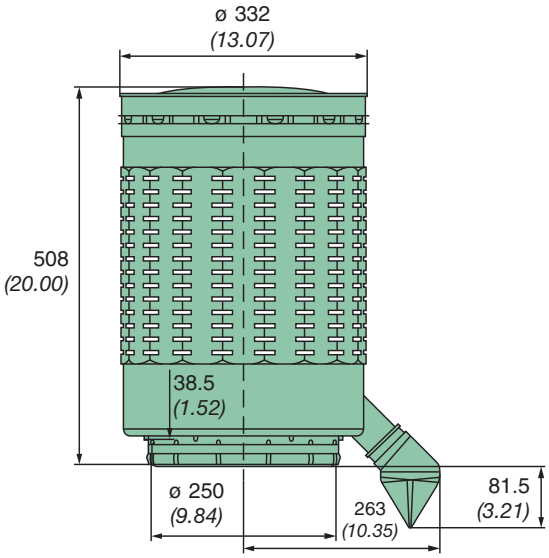
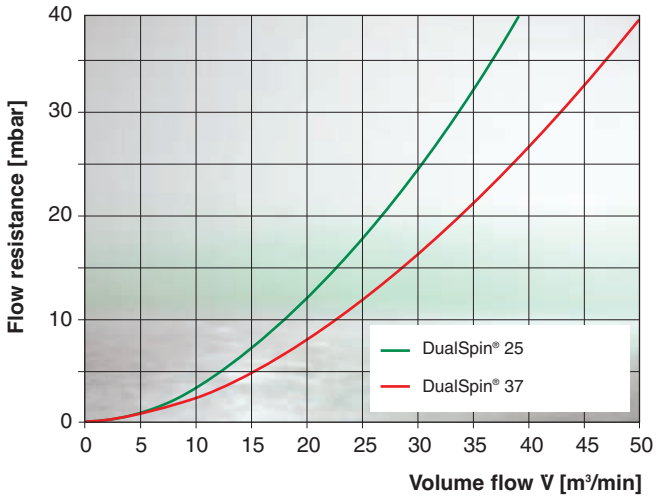


Fig. 2
with dust discharge valve 39 000 40 671

Part No. without dust discharge valve (Fig. 1)	Part No. with dust discharge valve (Fig. 2)	Nominal flow rate [m³/min]	Approx. weight [kg]
48 025 75 900	**48 025 75 910**	18 – 25	2.4
48 037 75 910	**48 037 75 920**	25 – 50	2.4

Flow characteristics ...

... for flow rates (only DualSpin®) as per ISO 5011

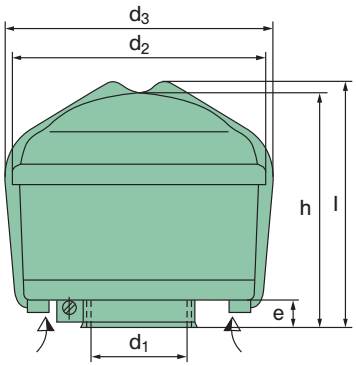


Precleaners

Dust bowls (plastic version)

The proven precleaners from MANN+HUMMEL are suitable for extending the service life of single-stage air cleaners such as the NLG Pico or Pico-E. Due to its transparent insert, it is possible to read the filling level of the precleaner at any time and accordingly select the right time for the service.

The easy and problem-free emptying of the dust bowl is made possible by the closing clamp. Precleaners offer protection against ingress of spray water and rain.



vertical mounting

Part No.	Application		Dimensions in mm *(dimensions in inches)*						Approx. weight [kg]
	Nominal flow rate [m³/min]	at Δp [1] [mbar]	d_1	d_2	d_3	e [2]	h	l	
48 017 67 900	1.4 – 1.7	7 – 10.5	42.2 *(1.66)*	164 *(6.46)*	175 *(6.89)*	52 *(2.05)*	140 *(5.51)*	150 *(5.91)*	0.4
48 024 67 900	2 – 2.4	8.5 – 12	54.2 *(2.13)*	164 *(6.46)*	175 *(6.89)*	52 *(2.05)*	140 *(5.51)*	150 *(5.91)*	0.4
48 030 67 900	2.8 – 3.4	9 – 13	62.2 *(2.45)*	164 *(6.46)*	175 *(6.89)*	52 *(2.05)*	140 *(5.51)*	150 *(5.91)*	0.4
48 034 67 900	2.8 – 3.4	6 – 9	62.2 *(2.45)*	219 *(8.62)*	236 *(9.29)*	62 *(2.44)*	167 *(6.57)*	180 *(7.09)*	1.0
48 048 67 900	4 – 4.5	10 – 12.5	68.2 *(2.69)*	219 *(8.62)*	236 *(9.29)*	62 *(2.44)*	167 *(6.57)*	180 *(7.09)*	1.0
48 056 67 900	5.6 – 6.8	12 – 17.5	82.2 *(3.24)*	219 *(8.62)*	236 *(9.29)*	62 *(2.44)*	167 *(6.57)*	180 *(7.09)*	1.0
48 068 67 900	5.6 – 6.8	7 – 10.5	82.2 *(3.24)*	303 *(11.93)*	315 *(12.40)*	84 *(3.31)*	208 *(8.19)*	217 *(8.54)*	1.3
48 096 67 900	8 – 9.6	8.5 – 12	102.2 *(4.02)*	303 *(11.93)*	315 *(12.40)*	84 *(3.31)*	208 *(8.19)*	217 *(8.54)*	1.3
48 120 67 900	10 – 12	11 – 16	110.2 *(4.34)*	303 *(11.93)*	315 *(12.40)*	84 *(3.31)*	208 *(8.19)*	217 *(8.54)*	1.3

[1] Δp = Flow resistance. When using as precleaner, add 70% of the stated flow resistance to the resistance of the air cleaner fitted downstream.
[2] e = insertion depth

Precleaners

Precleaners (metal version)

The metal version of the precleaner is available in two variations:

- as a throughput precleaner with integrated rain cap for vertical mounting at the air intake
- as a throughput precleaner for horizontal installation in the air intake pipe

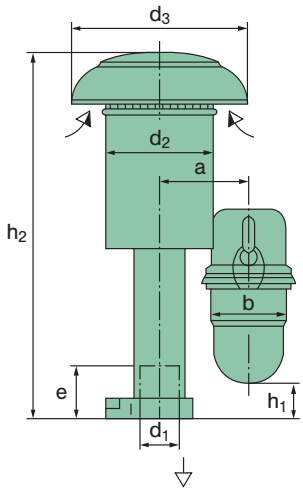


Fig. 1
Vertical mounting

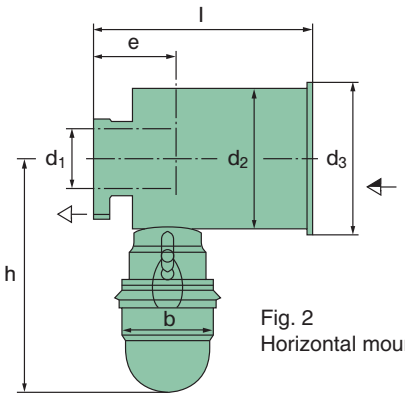


Fig. 2
Horizontal mounting

Part No.	Application		Fig.	Dimensions in mm *(dimensions in inches)*										Approx. weight [kg]
	Nominal flow rate [m³/min]	at Δp [1] [mbar]		a	b	d_1	d_2	d_3	e [2]	h	h_1	h_2	l	
48 024 67 020	2 – 2.8	7 – 13.5	1	84 *(3.31)*	85 *(3.35)*	54.2 *(2.13)*	100 *(3.94)*	155 *(6.10)*	60 *(2.36)*	–	10 *(0.39)*	300 *(11.84)*	–	1.0
48 024 67 030	2.8 – 3.4	8.5 – 12.5	1	84 *(3.31)*	85 *(3.35)*	62.2 *(2.45)*	100 *(3.94)*	155 *(6.10)*	60 *(2.36)*	–	40 *(1.57)*	330 *(12.99)*	–	1.0
48 036 67 110	3.6 – 4.5	11 – 18	1	95 *(3.74)*	85 *(3.35)*	68.2 *(2.69)*	114 *(4.49)*	180 *(7.09)*	70 *(2.76)*	–	45 *(1.77)*	350 *(13.78)*	–	1.4
48 048 67 020	5.6 – 6.8	14 – 20.5	1	100 *(3.94)*	85 *(3.35)*	82.2 *(3.24)*	136 *(5.35)*	215 *(8.46)*	80 *(3.15)*	–	40 *(1.57)*	400 *(15.75)*	–	2.0
48 066 67 110	7.3 – 9.6	14 – 24.5	1	113 *(4.45)*	85 *(3.35)*	102.2 *(4.02)*	159 *(6.26)*	258 *(10.16)*	100 *(3.94)*	–	15 *(0.59)*	418 *(16.46)*	–	2.5
48 096 67 140	10 – 13	14 – 23.5	1	113 *(4.45)*	85 *(3.35)*	110.2 *(4.34)*	158 *(6.22)*	255 *(10.04)*	110 *(4.33)*	–	30 *(1.18)*	433 *(17.05)*	–	3.5
48 132 67 020	16 – 19	13.5 – 19	1	164 *(6.46)*	125 *(4.92)*	132.2 *(5.20)*	230 *(9.06)*	368 *(14.49)*	130 *(5.12)*	–	35 *(1.38)*	615 *(24.21)*	–	5.9
48 024 67 140	2 – 2.8	7 – 13.5	2	–	85 *(3.35)*	54.2 *(2.13)*	100 *(3.94)*	107 *(4.21)*	60 *(2.36)*	191 *(7.52)*	–	–	144 *(5.67)*	0.9
48 024 67 180	2.8 – 3.4	8.5 – 12.5	2	–	85 *(3.35)*	62.2 *(2.45)*	100 *(3.94)*	107 *(4.21)*	60 *(2.36)*	191 *(7.52)*	–	–	144 *(5.67)*	0.7
48 036 67 160	3.6 – 4.5	11 – 18	2	–	85 *(3.35)*	68.2 *(2.69)*	114 *(4.49)*	120 *(4.72)*	70 *(2.76)*	198 *(7.80)*	–	–	162 *(6.38)*	1.0
48 048 67 220	5.6 – 6.8	14 – 20.5	2	–	85 *(3.35)*	82.2 *(3.24)*	136 *(5.35)*	145 *(5.71)*	80 *(3.15)*	210 *(8.27)*	–	–	203 *(7.99)*	1.2
48 066 67 090	7.3 – 9.6	14 – 24.5	2	–	85 *(3.35)*	102.2 *(4.02)*	158 *(6.22)*	166 *(6.54)*	100 *(3.94)*	224 *(8.82)*	–	–	232 *(9.13)*	1.6
48 096 67 200	10 – 13	14 – 23.5	2	–	85 *(3.35)*	110.2 *(4.34)*	158 *(6.22)*	166 *(6.54)*	110 *(4.33)*	220 *(8.66)*	–	–	245 *(9.65)*	1.7
48 132 67 120	16 – 19	13.5 – 19	2	–	125 *(4.92)*	132.2 *(5.20)*	230 *(9.06)*	240 *(9.45)*	130 *(5.12)*	336 *(13.23)*	–	–	370 *(14.57)*	3.9

[1] Δp = Flow resistance. When using as precleaner, add 70% of the stated flow resistance to the resistance of the air cleaner fitted downstream.
[2] e = insertion depth

Air connecting parts

Elbow pipes

90° elbows
Operating temperature:
-40 °C to +100 °C

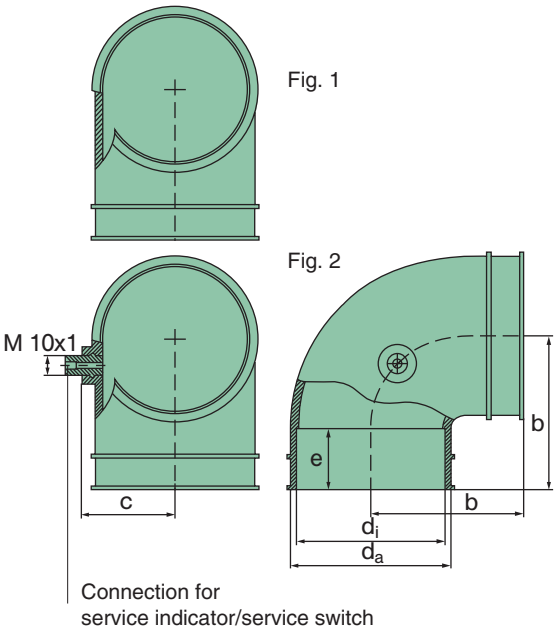


Fig. 1

Fig. 2

Connection for
service indicator/service switch

Part No.	Fig.	Dimensions in mm *(dimensions in inches)*					Con-nection for
		b	c	d_i	d_a	e	
39 100 25 999	1	57	–	50	55	25	–
39 100 25 979	2	*(2.24)*	33 *(1.30)*	*(1.97)*	*(2.17)*	*(0.98)*	M 10x1
39 200 25 999	1	62	–	60	65	25	–
39 200 25 979	2	*(2.44)*	38 *(1.50)*	*(2.36)*	*(2.56)*	*(0.98)*	M 10x1
39 300 25 999	1	72	–	70	75	28	–
39 300 25 979	2	*(2.83)*	43 *(1.69)*	*(2.76)*	*(2.95)*	*(1.10)*	M 10x1
39 400 25 999	1	77	–	80	85	30	–
39 400 25 979	2	*(3.03)*	48 *(1.89)*	*(3.15)*	*(3.35)*	*(1.18)*	M 10x1
39 500 25 999	1	92	–	100	105	35	–
39 500 25 979	2	*(3.62)*	58 *(2.28)*	*(3.94)*	*(4.13)*	*(1.38)*	M 10x1
39 600 25 999	1	89	–	110	119	27	–
39 600 25 979	2	*(3.50)*	63 *(2.48)*	*(4.33)*	*(4.69)*	*(1.06)*	M 10x1
39 700 25 999	1	98.5	–	130	135	27	–
39 700 25 979	2	*(3.88)*	75 *(2.95)*	*(5.12)*	*(5.32)*	*(1.06)*	M 10x1
39 800 25 999	1	108.5	–	150	155	27	–
39 800 25 979	2	*(4.27)*	83 *(3.27)*	*(5.91)*	*(6.10)*	*(1.06)*	M 10x1
39 930 25 999	1	170	–	196	200	30	–
39 930 25 979	2	*(6.69)*	98.5 *(3.88)*	*(7.71)*	*(7.87)*	*(1.18)*	M 10x1

Air connecting parts

Connections

Straight connections
Operating temperature:
-40 °C to +100 °C

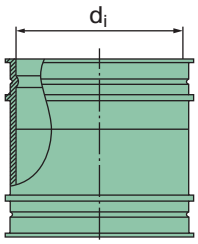
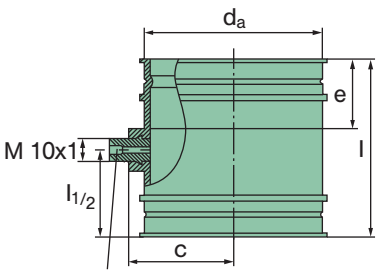


Fig. 1

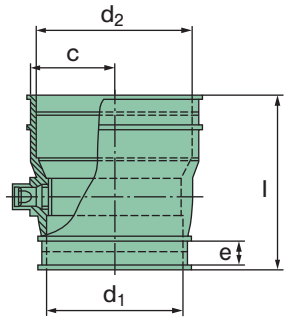


Connection for service indicator/service switch

Fig. 2

Part No.	Fig.	Dimensions in mm *(dimensions in inches)*					Connection for
		c	d_i	d_a	e	l	
39 100 27 999	1	–	50	55	25	68	–
39 100 27 979	2	33 *(1.30)*	*(1.97)*	*(2.17)*	*(0.98)*	*(2.68)*	M 10x1
39 200 27 999	1	–	60	65	25	68	–
39 200 27 979	2	38 *(1.50)*	*(2.36)*	*(2.56)*	*(0.98)*	*(2.68)*	M 10x1
39 300 27 999	1	–	70	75	28	75	–
39 300 27 979	2	43 *(1.69)*	*(2.76)*	*(2.95)*	*(1.10)*	*(2.95)*	M 10x1
39 400 27 999	1	–	80	85	30	78	–
39 400 27 979	2	48 *(1.89)*	*(3.15)*	*(3.35)*	*(1.18)*	*(3.07)*	M 10x1
39 500 27 999	1	–	100	105	35	88	–
39 500 27 979	2	58 *(2.28)*	*(3.94)*	*(4.13)*	*(1.38)*	*(3.46)*	M 10x1
39 600 27 999	1	–	110	119	27	72	–
39 600 27 979	2	63 *(2.48)*	*(4.33)*	*(4.69)*	*(1.06)*	*(2.83)*	M 10x1
39 700 27 999	1	–	130	135	27	72	–
39 700 27 979	2	75 *(2.95)*	*(5.12)*	*(5.32)*	*(1.06)*	*(2.83)*	M 10x1
39 800 27 999	1	–	150	155	27	72	–
39 800 27 979	2	83 *(3.28)*	*(5.91)*	*(6.10)*	*(1.06)*	*(2.83)*	M 10x1
39 930 27 999	1	–	180	195	45	140	–
39 930 27 979	2	109.5 *(4.31)*	*(7.09)*	*(7.68)*	*(1.77)*	*(5.51)*	M 10x1

Reducer connections
Operating temperature:
-40 °C to +100 °C



Part No.	Dimensions in mm *(dimensions in inches)*				
	c	d_1	d_2	e	l
39 300 27 949	43 *(1.69)*	70 *(2.76)*	80 *(3.15)*	13.5 *(0.53)*	89.5 *(3.52)*
39 300 27 959	43 *(1.69)*	60 *(2.36)*	70 *(2.76)*	13.5 *(0.53)*	85.5 *(3.52)*
39 300 27 969	43 *(1.69)*	50 *(1.97)*	70 *(2.76)*	13.5 *(0.53)*	85.5 *(3.52)*

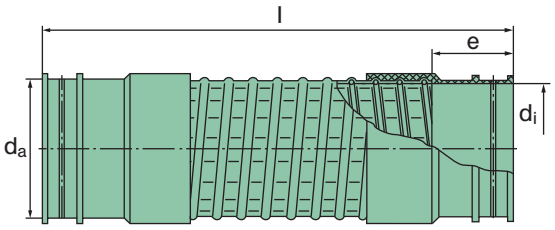
Air connecting parts

Accordion hoses

Part No.	Dimensions in mm *(dimensions in inches)*				
	d_i	d_a	e	l_{min}	l_{max}
39 000 27 164	40 *(1.57)*	51 *(2.01)*	30+5 *(1.18+0.20)*	180 *(7.09)*	250 *(9.84)*
39 000 27 161	50 *(1.97)*	62 *(2.44)*	30+5 *(1.18+0.20)*	190 *(7.48)*	285 *(11.22)*
39 000 27 140	60 *(2.36)*	70 *(2.76)*	30+5 *(1.18+0.20)*	190 *(7.48)*	285 *(11.22)*
39 000 27 139	70 *(2.76)*	80 *(3.15)*	30+5 *(1.18+0.20)*	195 *(7.68)*	310 *(12.20)*
39 000 27 138	80 *(3.15)*	90 *(3.54)*	30+5 *(1.18+0.20)*	205 *(8.07)*	340 *(13.39)*
39 000 27 158	100 *(3.94)*	100 *(3.94)*	40+5 *(1.57+0.20)*	230 *(9.06)*	395 *(15.55)*
39 000 27 152	110 *(4.33)*	118 *(4.65)*	35+5 *(1.38+0.20)*	240 *(9.45)*	425 *(16.73)*
39 000 27 151	130 *(5.12)*	138 *(5.43)*	45+5 *(1.77+0.20)*	280 *(11.02)*	500 *(19.69)*
39 000 27 150	150 *(5.91)*	165 *(6.50)*	45+5 *(1.77+0.20)*	300 *(11.81)*	545 *(21.46)*

Accordion hoses with moulded-on end sleeves (standard model)
Material: TPO

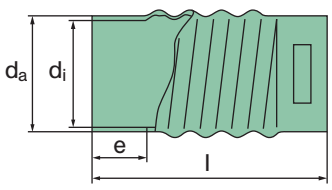
Operating temperature: -30 °C to +100 °C
Maximum curvature: 90° (depending on the vibration load)



Part No.	Dimensions in mm *(dimensions in inches)*			
	d_i	d_a	e	l
39 000 27 205	50 *(1.97)*	58 *(2.28)*	25 *(0.98)*	110±5 *(4.33±0.20)*
39 000 27 206	60 *(2.36)*	68 *(2.68)*	50 *(1.97)*	215±5 *(8.46±0.20)*
39 000 27 207	70 *(2.76)*	78 *(3.07)*	50 *(1.97)*	215±5 *(8.46±0.20)*
39 000 27 208	80 *(3.15)*	88 *(3.46)*	50 *(1.97)*	215±5 *(8.46±0.20)*
39 000 27 212	90 *(3.54)*	98 *(3.86)*	50 *(1.97)*	215±5 *(8.46±0.20)*
39 000 27 213	100 *(3.94)*	108 *(4.25)*	50 *(1.97)*	215±5 *(8.46±0.20)*
39 000 27 214	110 *(4.33)*	118 *(4.65)*	50 *(1.97)*	215±5 *(8.46±0.20)*
39 000 27 215	130 *(5.12)*	138 *(5.43)*	50 *(1.97)*	215±5 *(8.46±0.20)*
39 000 27 184	150 *(5.91)*	158 *(6.22)*	50 *(1.97)*	215±5 *(8.46±0.20)*
39 000 27 346	200 *(7.87)*	138 *(5.43)*	50 *(1.97)*	215±5 *(8.46±0.20)*

Accordion hoses (reinforced model)
Material: rubber with fabric insert

Operating temperature: -30 °C to +100 °C
Maximum curvature: 45° (depending on the vibration load)

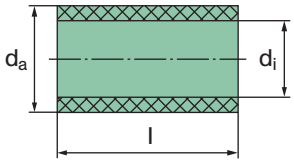


Air connecting parts

Straight couplings in rubber

Part No.	Dimensions in mm *(dimensions in inches)*		
	d_i	d_a	l
39 000 27 203	40 *(1.57)*	52 *(2.05)*	100 *(3.94)*
39 000 27 202	50 *(1.97)*	63 *(2.48)*	100 *(3.94)*
39 000 27 171	60 *(2.36)*	74 *(2.91)*	100 *(3.94)*
39 000 27 198	60 *(2.36)*	74 *(2.91)*	150 *(5.91)*
39 000 27 197	70 *(2.76)*	84 *(3.31)*	150 *(5.91)*
39 000 27 252	70 *(2.76)*	84 *(3.31)*	80 *(3.15)*
39 000 27 196	80 *(3.15)*	96 *(3.78)*	150 *(5.91)*
39 000 27 950	80 *(3.15)*	96 *(3.78)*	75 *(2.95)*
39 000 27 195	90 *(3.54)*	106 *(4.17)*	150 *(5.91)*
39 000 27 103	100 *(3.94)*	116 *(4.57)*	75 *(2.95)*
39 000 27 104	100 *(3.94)*	116 *(4.57)*	100 *(3.94)*
39 000 27 194	100 *(3.94)*	118 *(4.65)*	150 *(5.91)*
39 000 27 193	110 *(4.33)*	126 *(4.96)*	150 *(5.91)*
39 000 27 359	110 *(4.33)*	128 *(5.04)*	75 *(2.95)*
39 000 27 188	130 *(5.12)*	148 *(5.83)*	100 *(3.94)*
39 000 27 192	130 *(5.12)*	148 *(5.83)*	150 *(5.91)*
39 000 27 297	130 *(5.12)*	148 *(5.83)*	65 *(2.56)*
39 000 27 183	150 *(5.91)*	166 *(6.54)*	150 *(5.91)*
39 223 27 111	150 *(5.91)*	168 *(6.61)*	100 *(3.94)*
39 000 27 182	180 *(7.09)*	198 *(7.80)*	150 *(5.91)*
39 000 27 345	200 *(7.87)*	218 *(8.58)*	200 *(7.87)*
39 000 27 306	210 *(8.27)*	228 *(8.98)*	200 *(7.87)*

Straight couplings
Material:
rubber (NBR, 60±5 Shore)
with fabric insert
Operating temperature:
-30 °C to +100 °C



Air connecting parts

Elbow pipes in rubber

Part No.	Fig.	Dimensions in mm *(dimensions in inches)*			
		b	d_1	d_a	r
39 000 25 280	1	115 *(4.53)*	52 *(2.05)*	60 *(2.36)*	75 *(2.95)*
39 000 25 264	1	115 *(4.53)*	60 *(2.36)*	68 *(2.68)*	75 *(2.95)*
39 000 25 263	1	140 *(5.51)*	70 *(2.76)*	79 *(3.11)*	90 *(3.54)*
39 000 25 262	1	140 *(5.51)*	80 *(3.15)*	90 *(3.54)*	95 *(3.74)*
39 000 25 258	2	205 *(8.07)*	100 *(3.94)*	110 *(4.33)*	155 *(6.10)*
39 000 25 265	2	215 *(8.46)*	110 *(4.33)*	120 *(4.72)*	165 *(6.50)*
39 000 25 266	2	265 *(10.43)*	130 *(5.12)*	140 *(5.51)*	210 *(8.27)*
39 000 25 267	2	300 *(11.81)*	150 *(5.91)*	160 *(6.30)*	245 *(9.65)*
39 000 25 270	2	355 *(13.98)*	200 *(7.87)*	210 *(8.27)*	300 *(11.81)*

90° elbows
Material:
rubber (NBR, 60±5 Shore)
with fabric insert
Operating temperature:
-25 °C to +100 °C

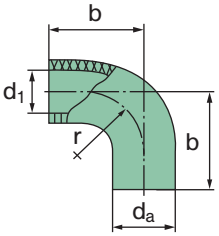


Fig. 1

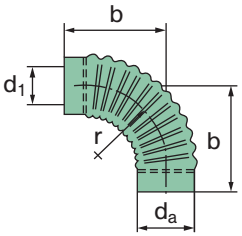
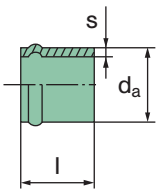


Fig. 2

Couplings in metal

Part No.	Dimensions in mm *(dimensions in inches)*		
	d_a	l	s
39 000 25 178	42 *(1.65)*	40 *(1.57)*	0.75 *(0.03)*
39 000 25 177	52 *(2.05)*	50 *(1.97)*	0.75 *(0.03)*
39 000 25 167	62 *(2.44)*	65 *(2.56)*	1.0 *(0.04)*
39 000 25 164	70 *(2.76)*	50 *(1.97)*	1.0 *(0.04)*
39 000 25 168	82 *(3.23)*	50 *(1.97)*	1.0 *(0.04)*
39 000 25 165	92 *(3.62)*	50 *(1.97)*	1.0 *(0.04)*
39 000 25 175	102 *(4.02)*	50 *(1.97)*	1.0 *(0.04)*
39 000 25 176	110 *(4.33)*	50 *(1.97)*	1.0 *(0.04)*
39 000 25 174	132 *(5.20)*	50 *(1.97)*	1.0 *(0.04)*
39 000 25 184	150 *(5.91)*	90 *(3.54)*	1.0 *(0.04)*
39 000 25 185	180 *(7.09)*	90 *(3.54)*	1.0 *(0.04)*

Couplings (black painted metal)

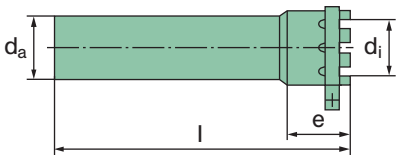


Air connecting parts

Connection pipes and couplings in metal

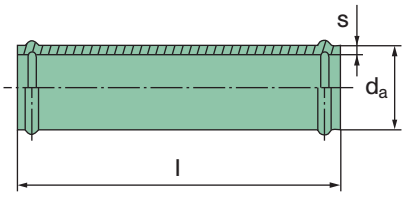
Part No.	Dimensions in mm *(dimensions in inches)*			
	d_i	d_a	e	l
31 028 25 831	62.2 *(2.45)*	62 *(2.44)*	60 *(2.36)*	225 *(8.86)*
31 056 25 821	82.2 *(3.24)*	82 *(3.23)*	80 *(3.15)*	245 *(9.65)*
31 080 25 731	102.2 *(4.02)*	102 *(4.02)*	80 *(3.15)*	250 *(9.84)*
39 100 25 991	110.2 *(4.34)*	110 *(4.33)*	110 *(4.33)*	200 *(7.87)*
31 100 25 983	110.2 *(4.34)*	110 *(4.33)*	110 *(4.33)*	400 *(15.75)*
31 160 25 771	132.2 *(5.20)*	132 *(5.20)*	110 *(4.33)*	400 *(15.75)*

Intermediate pipe (black painted metal)
only for dirty air intake



Part No.	Dimensions in mm *(dimensions in inches)*		
	d_a	l	s
39 000 25 172	42 *(1.65)*	500 *(19.69)*	0.75 *(0.03)*
39 000 25 182	52 *(2.05)*	500 *(19.69)*	0.75 *(0.03)*
39 000 25 162	62 *(2.44)*	500 *(19.69)*	0.75 *(0.03)*
39 000 25 163	70 *(2.76)*	500 *(19.69)*	0.75 *(0.03)*
39 000 25 173	82 *(3.23)*	500 *(19.69)*	0.75 *(0.03)*
39 000 25 158	92 *(3.62)*	500 *(19.69)*	0.75 *(0.03)*
39 000 25 183	102 *(4.02)*	500 *(19.69)*	0.75 *(0.03)*
39 000 25 166	110 *(4.33)*	500 *(19.69)*	0.75 *(0.03)*
39 000 25 157	132 *(5.20)*	500 *(19.69)*	0.75 *(0.03)*
39 000 25 155	150 *(5.91)*	500 *(19.69)*	0.75 *(0.03)*

Pipes (black painted metal)



Air connecting parts

Elbow pipes in metal

Part No.	Fig.	Dimensions in mm *(dimensions in inches)*				
		a	b	d_a	r	s
39 000 25 188	1	60 *(2.36)*	60 *(2.36)*	52 *(2.05)*	40 *(1.57)*	0.75 *(0.03)*
31 034 25 442	1	95 *(3.74)*	95 *(3.74)*	62 *(2.44)*	60 *(2.36)*	0.75 *(0.03)*
39 000 25 152	1	70 *(2.76)*	70 *(2.76)*	70 *(2.76)*	60 *(2.36)*	1.0 *(0.04)*
39 000 25 207	2	100 *(3.94)*	100 *(3.94)*	70 *(2.76)*	60 *(2.36)*	1.0 *(0.04)*
39 000 25 956	2	110 *(4.33)*	110 *(4.33)*	80 *(3.15)*	55 *(2.17)*	1.0 *(0.04)*
39 000 25 148	1	61 *(2.40)*	61 *(2.40)*	82 *(3.23)*	55 *(2.17)*	1.0 *(0.04)*
39 000 25 153	1	80 *(3.15)*	67 *(2.64)*	90 *(3.54)*	60 *(2.36)*	1.0 *(0.04)*
39 000 25 273	1	80 *(3.15)*	80 *(3.15)*	100 *(3.94)*	65 *(2.56)*	1.0 *(0.04)*
39 000 25 124	2	110 *(4.33)*	110 *(4.33)*	100 *(3.94)*	65 *(2.56)*	1.0 *(0.04)*
39 000 25 146	1	90 *(3.54)*	90 *(3.54)*	110 *(4.33)*	85 *(3.35)*	1.0 *(0.04)*
39 000 25 192	2	110 *(4.33)*	110 *(4.33)*	110 *(4.33)*	85 *(3.35)*	1.0 *(0.04)*
39 000 25 198	2	125 *(4.92)*	125 *(4.92)*	110 *(4.33)*	85 *(3.35)*	1.0 *(0.04)*
39 000 25 147	1	120 *(4.72)*	120 *(4.72)*	130 *(5.12)*	95 *(3.74)*	1.0 *(0.04)*
39 000 25 224	2	140 *(5.51)*	140 *(5.51)*	130 *(5.12)*	95 *(3.74)*	1.0 *(0.04)*
39 000 25 142	1	180 *(7.09)*	180 *(7.09)*	150 *(5.91)*	110 *(4.33)*	1.0 *(0.04)*
39 000 25 333	2	180 *(7.09)*	180 *(7.09)*	150 *(5.91)*	110 *(4.33)*	1.0 *(0.04)*

Metal elbow pipes (black painted metal)

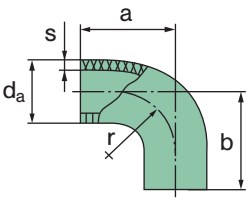


Fig. 1

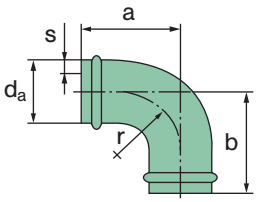


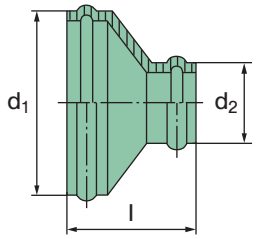
Fig. 2

Air connecting parts

Adapter pieces in metal, hose clips

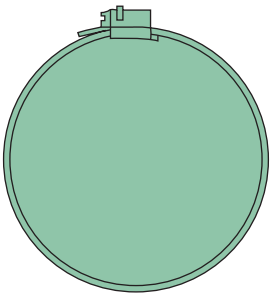
Part No.	Dimensions in mm *(dimensions in inches)*		
	d_1	d_2	l
39 000 25 621	70 *(2.76)*	40 *(1.57)*	65 *(2.56)*
39 000 25 622	70 *(2.76)*	60 *(2.36)*	56 *(2.20)*
39 000 25 631	80 *(3.15)*	50 *(1.97)*	65 *(2.56)*
39 000 25 431	82 *(3.23)*	70 *(2.76)*	56 *(2.20)*
39 000 25 461	100 *(3.94)*	70 *(2.76)*	75 *(2.95)*
31 080 25 511	102 *(4.02)*	80 *(3.15)*	76 *(2.99)*
39 000 25 295	110 *(4.33)*	80 *(3.15)*	75 *(2.95)*
39 000 25 193	110 *(4.33)*	100 *(3.94)*	70 *(2.76)*
39 000 25 105	132 *(5.20)*	102 *(4.02)*	71 *(2.80)*
39 000 25 253	132 *(5.20)*	110 *(4.33)*	76 *(2.99)*
39 000 25 325	150 *(5.91)*	130 *(5.12)*	86 *(3.39)*
39 000 25 145	180 *(7.09)*	150 *(5.91)*	95 *(3.74)*
39 000 25 327	200 *(7.87)*	150 *(5.91)*	105 *(4.13)*

Adapter pieces (black painted metal)



Part No.	Clamping range (diameter) [mm and *inches*]	Part No.	Clamping range (diameter) [mm and *inches*]
02 018 01 707	32 – 50 *(1.26 – 1.97)*	**02 018 01 717**	130 – 150 *(5.12 – 5.91)*
02 018 01 708	40 – 60 *(1.57 – 2.36)*	**02 018 01 718**	140 – 160 *(5.51 – 6.30)*
02 018 01 709	50 – 70 *(1.97 – 2.76)*	**02 018 01 719**	150 – 170 *(5.91 – 6.69)*
02 018 01 710	60 – 80 *(2.36 – 3.15)*	**02 018 01 720**	160 – 180 *(6.30 – 7.09)*
02 018 01 711	70 – 90 *(2.76 – 3.54)*	**02 018 01 721**	170 – 190 *(6.69 – 7.48)*
02 018 01 712	80 – 100 *(3.15 – 3.94)*	**02 018 01 722**	180 – 200 *(7.09 – 7.87)*
02 018 01 713	90 – 110 *(3.54 – 4.33)*	**02 018 01 723**	190 – 210 *(7.48 – 8.27)*
02 018 01 714	100 – 120 *(3.94 – 4.72)*	**02 018 01 724**	200 – 220 *(7.87 – 8.66)*
02 018 01 715	110 – 130 *(4.33 – 5.12)*	**02 018 01 725**	210 – 230 *(8.27 – 9.06)*
02 018 01 716	120 – 140 *(4.72 – 5.51)*	**02 018 01 728**	240 – 260 *(9.45 – 10.24)*

Hose clips



Exhaust ejectors

Maintenance-free dust scavenging with two-stage air cleaners

MANN+HUMMEL ejectors are designed to provide maintenance-free scavenging of the pre-separated dust in two-stage air cleaners.
In addition to being maintenance-free, the ejectors achieve a significantly improved pre-separation efficiency of the two-stage air cleaner. This enables a considerably longer filter service life (up to 60%).

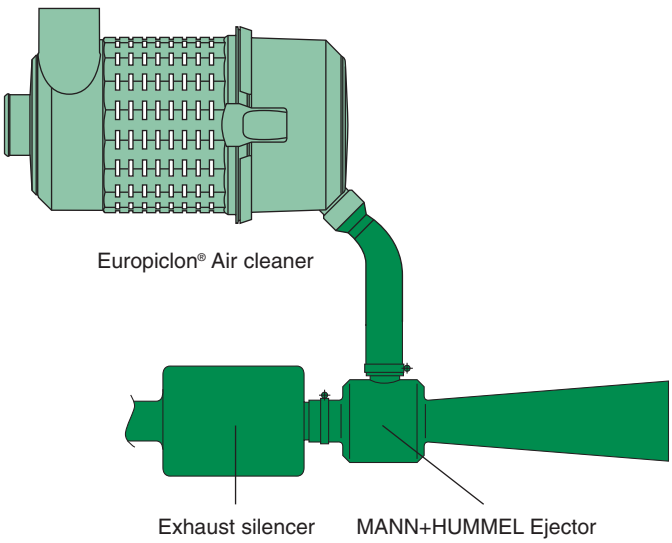
The ejector is fitted behind the exhaust silencer on the tailpipe. The flow energy of the exhaust gases generates a negative pressure in the ejector. This enables the pre-separated dust to be scavenged to the ejector and the dust is then blown out together with the exhaust gases.

Installation instructions

The connection pipe between the air cleaner and ejector should be as short as possible and not have any tight elbows which would increase flow resistance. Coarse contaminant particles in the intake air (e.g. awns, fibres, stems or leaves) can lead to clogging in the air cleaner.

In order to avoid this, the scavenging should either be made in a closed area (cooling air shaft, scavenging under engine bonnet) or installed upstream with a basket sieve.
When using an ejector, care should also be taken that the maximum permissible exhaust back pressure specified by the engine producer is not exceeded.
In addition, in all operational conditions there must be a pressure drop to the ejector in order to prevent exhaust gas being sucked in. In case of doubt we recommend use of a non-return adapter.

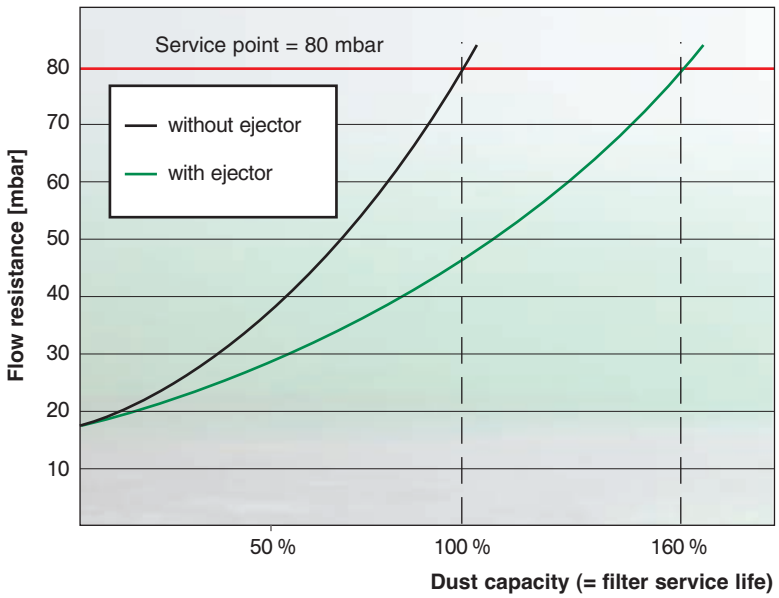
Installation example



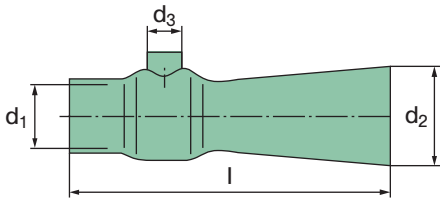
Exhaust ejectors

Significant extension of the air cleaner service life

The use of exhaust ejectors enables the service life of a two-stage air cleaner to be increased by 60%. This is demonstrated by the graphic pictured here which shows the typical flow characteristics for the dust capacity in relation to the increase in pressure drop.



Dimensions and part numbers



Part No.	Application [kW]	Suitable for			Dimensions in mm *(dimensions in inches)*			
		Europiclon®	NLG-Piclon	Piclon (metal)	d_1	d_2	d_3	l
39 330 70 111	50 – 75	**45 400 ...**	–	**45 225 ...**	55.5 *(2.19)*	75 *(2.95)*	32 *(1.26)*	352 *(13.86)*
39 330 70 100	75 – 100	**45 500 ...**	–	**45 325 ...**	72.5 *(2.85)*	80 *(3.15)*	32 *(1.26)*	312 *(12.28)*
39 105 67 110	100 – 130	**45 600 ...**	**NLG 15**	**45 440 ...**	80.2 *(3.16)*	88 *(3.46)*	32 *(1.26)*	345 *(13.58)*
39 150 65 100	130 – 195	**45 700 ...**	**NLG 21**	**45 650 ...**	90.0 *(3.54)*	109 *(4.29)*	40 *(1.57)*	416 *(16.38)*
39 170 67 100	180 – 300	**45 800 ...**	**NLG 28**	**45 880 ...**	110.0 *(4.33)*	143 *(5.63)*	40 *(1.57)*	547 *(21.54)*

Accessories for ejectors

Part No.	Fig.
39 000 25 919	1
39 000 25 751	2

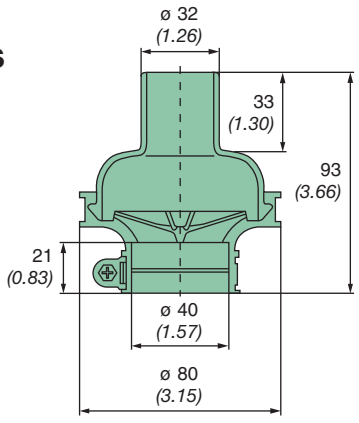


Fig. 1
Non-return adapter

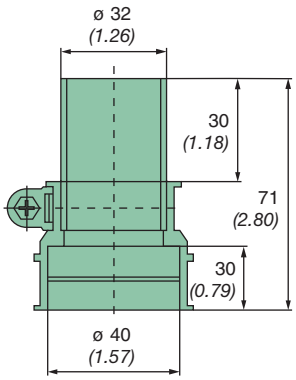


Fig. 2
Ejector adapter

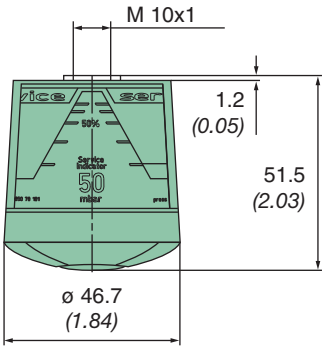
Service indicators

Level of dirt accumulation readable at any time

The MANN+HUMMEL service indicator allows you to read the current level of dirt accumulation in the air cleaner, even when the engine is not in operation. The yellow indicating piston catches on a scale of 12 snap-in positions. In the triangular display, the remaining service life of the filter is displayed, in relation to the increased clogging of the filter element.

The service indicator is insensitive to the intake air pulsations of the engine, excluding the possibility of a false indication. Maintenance is necessary when the yellow piston reaches the red zone. After maintenance has been carried out, the indicator level is readjusted to "zero" by pressing the reset button.

Part No.	snaps into place at gauge pressure	
	[mbar]	[kPa]
39 035 70 911	35±3	3.5±0.3
39 050 70 911	50±4	5.0±0.4
39 060 70 911	60±4	6.0±0.4
39 065 70 911	65±5	6.5±0.5
39 080 70 911	80±5	8.0±0.5



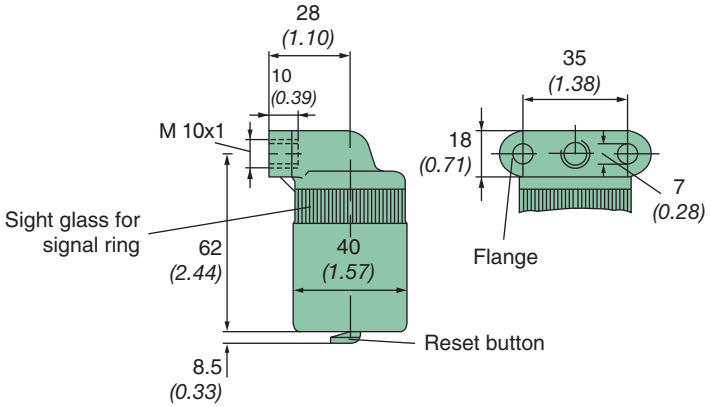
Specifications

- Material: PC
- Permissible operating temperature: -30 °C to +100 °C
- Switching pressure (negative pressure): 35 mbar to 80 mbar (3.5 kPa to 8 kPa)

Service indicators with 90° flange

The 90° connecting flange allows nearly any fitting position. The red indicating piston snaps into position upon reaching the maximum value possible, signalling that maintenance is needed.
After maintenance has been carried out, the indicating piston is readjusted to the start position by pressing the reset button.

Part No.	snaps into place at gauge pressure	
	[mbar]	[kPa]
39 000 62 924	35±3	3.5±0.3
39 000 62 925	50±6	5.0±0.6
39 000 62 926	65±7	6.5±0.7
39 000 62 927	80±8	8.0±0.8



Specifications

- Material: PA
- Permissible operating temperature: -40 °C to +100 °C
- Switching pressure (negative pressure): 35 mbar to 80 mbar (3.5 kPa to 8 kPa)

Service switches

Electrical monitoring of the level of accumulated dirt

The electrical service switch monitors the level of accumulated dirt in the air cleaner and sends an electrical signal when maintenance is required. This enables constant supervision of the state of the air cleaner and maintenance only takes place when it is really necessary.

This removes potential damage to equipment which may occur through frequent and careless maintenance actions.

Models

MANN+HUMMEL service switches are available with a number of different connection threads and plug connectors versions.

Technical instructions

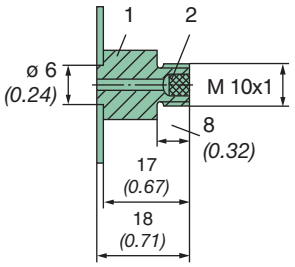
Thanks to the completely insulated and fully enclosed contact insert, the switch is insensitive to dust or humidity. The system is not mechanical but pressure-dependent so that possible tolerances of the components do not affect the accuracy of the switch. The heart of the system is a kick-over spring that makes readjustment of the switching point unnecessary. The spring contacts are not affected by contact erosion. As a result of the hysteresis between the points for switching and switching back, contact fluttering is reduced to a minimum. The service switch should not be fitted in a hanging position so as to prevent ingress of any condensed water into the air pipe.

Specifications

- Material: polyamide 6 GF 30
- Permissible operating temperature: -30 °C to + 120 °C
- Switching pressure (negative pressure): 35 mbar to 80 mbar (3.5 kPa to 8.0 kPa)
- Max. switching capacity: 6W/24V DC (ohmnique load, U_{max} = 24V, I_{max} = 0.25 A)

Accessories for external mounting

Installation examples: Connection on air cleaner (generally existing)

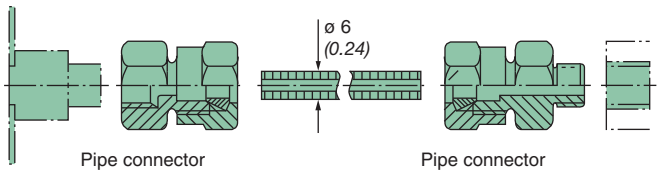


For retro-fitting in the clean air pipe

1 Connection nipple Part No.: 21 010 15 121
2 Felt disc Part No.: 23 005 31 171

Ensure that the felt disc is fitted to the nipple before installing.

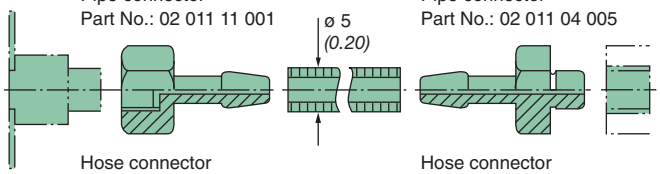
Parts for pipe connection



Pipe connector
Part No.: 02 011 11 001

Pipe connector
Part No.: 02 011 04 005

Parts for hose connection



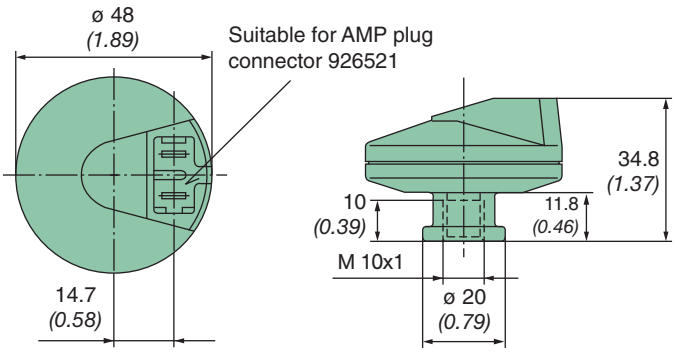
Hose connector
Part No.: 39 000 47 211

Hose connector
Part No.: 39 000 47 221

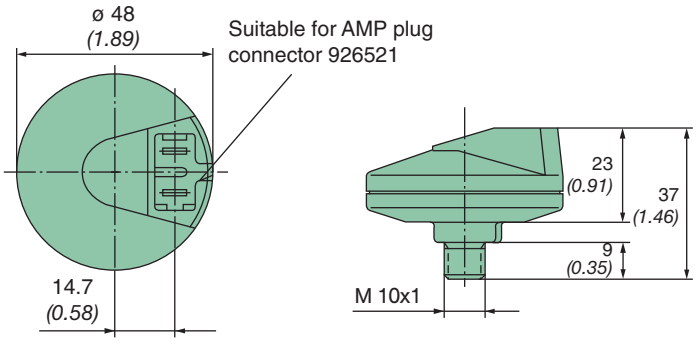
Service switches

with connection for flat plug

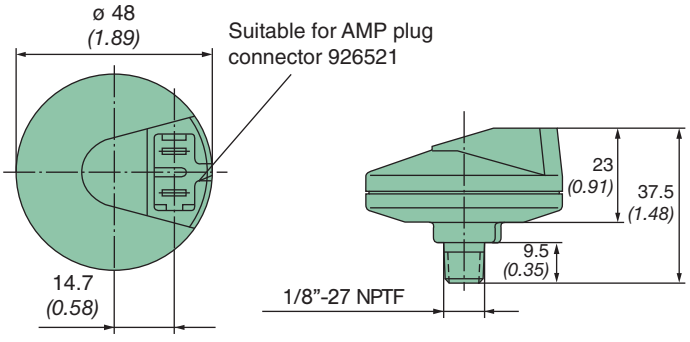
Service switch internal thread M 10x1		
Make contact Part No.	switches at gauge pressure [mbar]	[kPa]
39 035 70 902	35±3	3.5±0.3
39 050 70 902	50±3	5.0±0.3
39 055 70 902	55±3	5.5±0.3
39 060 70 902	60±3	6.0±0.3
39 065 70 902	65±3	6.5±0.3
39 070 70 902	70±4	7.0±0.4
39 080 70 902	80±4	8.0±0.4



Service switch external thread M 10x1		
Make contact Part No.	switches at gauge pressure [mbar]	[kPa]
39 035 70 952	35±3	3.5±0.3
39 050 70 952	50±3	5.0±0.3
39 055 70 952	55±3	5.5±0.3
39 060 70 952	60±3	6.0±0.3
39 065 70 952	65±3	6.5±0.3
39 070 70 952	70±4	7.0±0.4
39 080 70 952	80±4	8.0±0.4



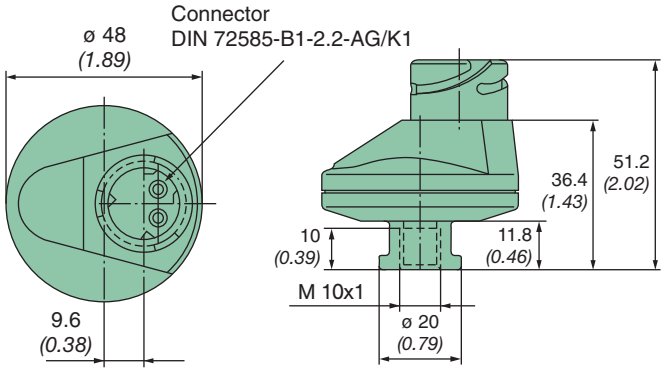
Service switch external thread 1/8“-27 NPTF		
Make contact Part No.	switches at gauge pressure [mbar]	[kPa]
39 035 70 962	35±3	3.5±0.3
39 050 70 962	50±3	5.0±0.3
39 055 70 962	55±3	5.5±0.3
39 060 70 962	60±3	6.0±0.3
39 065 70 962	65±3	6.5±0.3
39 080 70 962	80±4	8.0±0.4



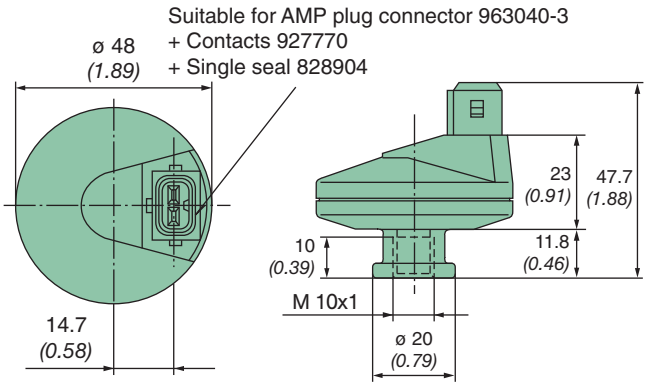
Service switches

for water-tight electrical connections

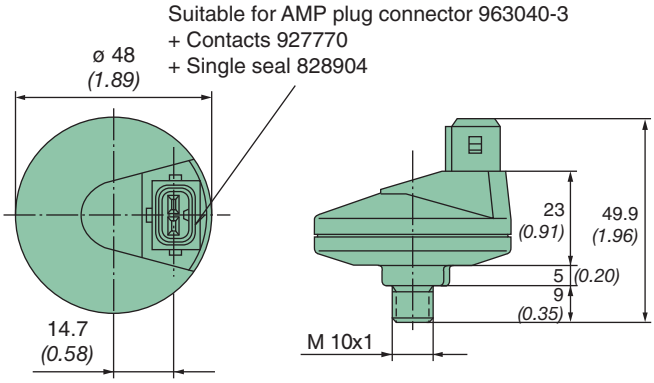
Service switch internal thread M 10x1		
Make contact Part No.	switches at gauge pressure [mbar]	[kPa]
39 035 70 702	35±3	3.5±0.3
39 050 70 702	50±3	5.0±0.3
39 055 70 702	55±3	5.5±0.3
39 060 70 702	60±3	6.0±0.3
39 065 70 702	65±3	6.5±0.3
39 070 70 702	70±4	7.0±0.4
39 080 70 702	80±4	8.0±0.4



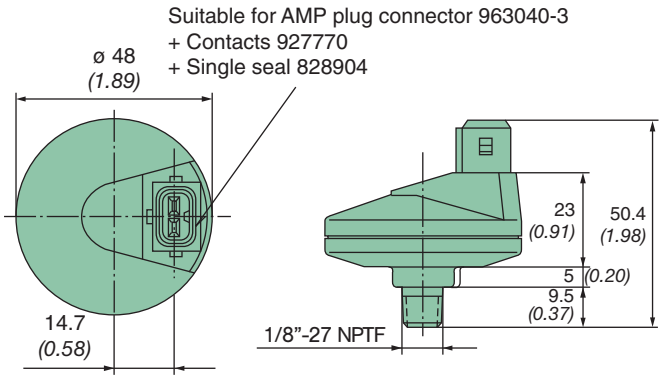
Service switch internal thread M 10x1		
Make contact Part No.	switches at gauge pressure [mbar]	[kPa]
39 035 70 802	35±3	3.5±0.3
39 050 70 802	50±3	5.0±0.3
39 055 70 802	55±3	5.5±0.3
39 060 70 802	60±3	6.0±0.3
39 065 70 802	65±3	6.5±0.3
39 070 70 802	70±4	7.0±0.4
39 080 70 802	80±4	8.0±0.4



Service switch external thread M 10x1		
Make contact Part No.	switches at gauge pressure [mbar]	[kPa]
39 035 70 852	35±3	3.5±0.3
39 050 70 852	50±3	5.0±0.3
39 055 70 852	55±3	5.5±0.3
39 060 70 852	60±3	6.0±0.3
39 065 70 852	65±3	6.5±0.3
39 070 70 852	70±4	7.0±0.4
39 080 70 852	80±4	8.0±0.4



Service switch external thread 1/8“-27 NPTF		
Make contact Part No.	switches at gauge pressure [mbar]	[kPa]
39 035 70 862	35±3	3.5±0.3
39 050 70 862	50±3	5.0±0.3
39 055 70 862	55±3	5.5±0.3
39 060 70 862	60±3	6.0±0.3
39 065 70 862	65±3	6.5±0.3
39 070 70 862	70±4	7.0±0.4
39 080 70 862	80±4	8.0±0.4

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