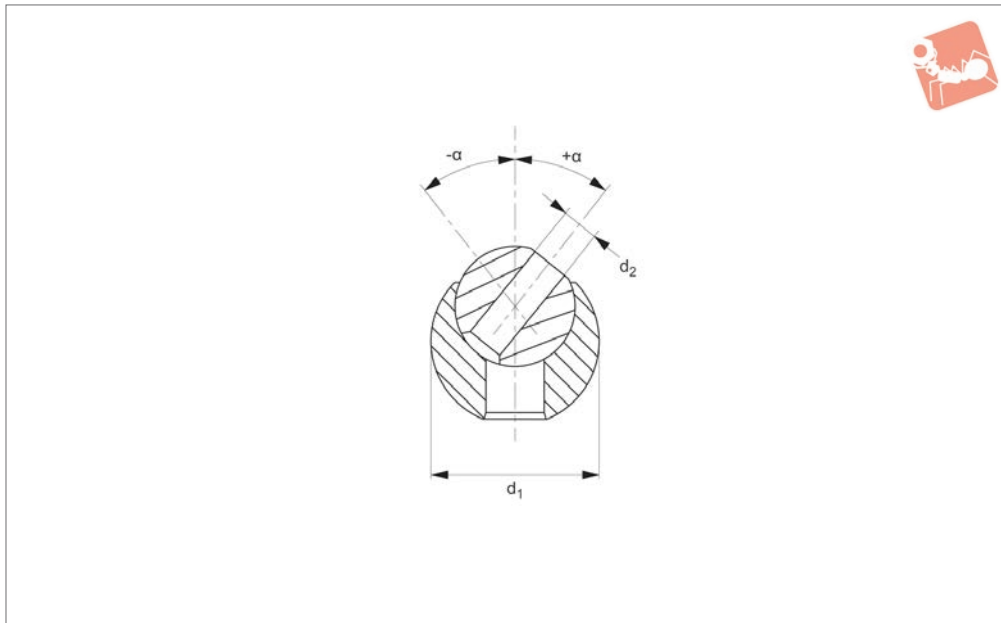




Coolant Nozzles - Black Eye

max. 10 bar

Coolant Nozzles



20000

COOLANT NOZZLES

Material

Body: acetal.
Ball: stainless steel.

Technical Notes

Max. temperature 70°C.
Max. pressure 10 bar.
symbola/symbol is an angle of adjustment

either side of centre line.
For extension tubes see part nos. 20090 and 20092.
For spray tips see part nos. 20080 and 20082.

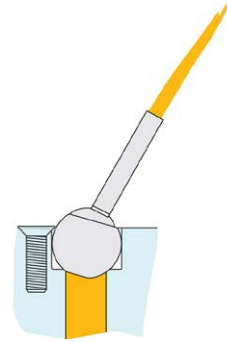
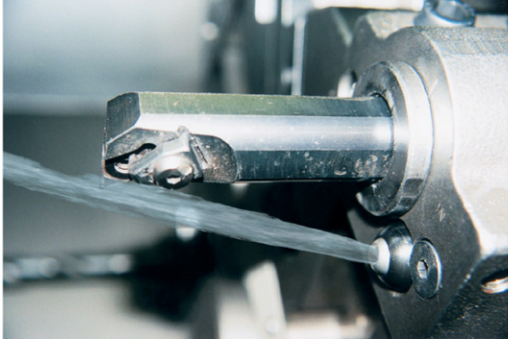
Tips

Easy to aim replacement for basic spherical

coolant nozzles. Install, lock in place then aim the stainless steel ball with the tip of a hex key.

Choose tapped version if you need to use with extension tubes or if occasional plugging of unit is required (set screw included).

Order No.	d ₁	d ₂	Jet bore d ₂	α
20000.W0100	10	2.8	Plain	±35°
20000.W0120	12	4.0	Plain	±35°
20000.W0140	14	4.0	Plain	±35°
20000.W0150	15	4.0	Plain	±35°
20000.W0180	18	4.0	Plain	±35°
20000.W0220	22	5.6	Plain	±35°
20000.W2370	3/8"	2.8	Plain	±35°
20000.W2500	1/2"	4.0	Plain	±35°
20000.W2630	5/8"	4.0	Plain	±35°
20000.W6100	10	M 3,5x0,6	Threaded	±35°
20000.W6120	12	M 4,0x0,7	Threaded	±35°
20000.W6140	14	M 4,0x0,7	Threaded	±35°
20000.W6150	15	M 4,0x0,7	Threaded	±35°
20000.W6180	18	M 5,0x0,8	Threaded	±35°
20000.W6220	22	M 6,0x1,0	Threaded	±35°
20000.W8370	3/8"	M 3,5x0,6	Threaded	±35°
20000.W8500	1/2"	M 4,0x0,7	Threaded	±35°
20000.W8630	5/8"	M 4,0x0,7	Threaded	±35°

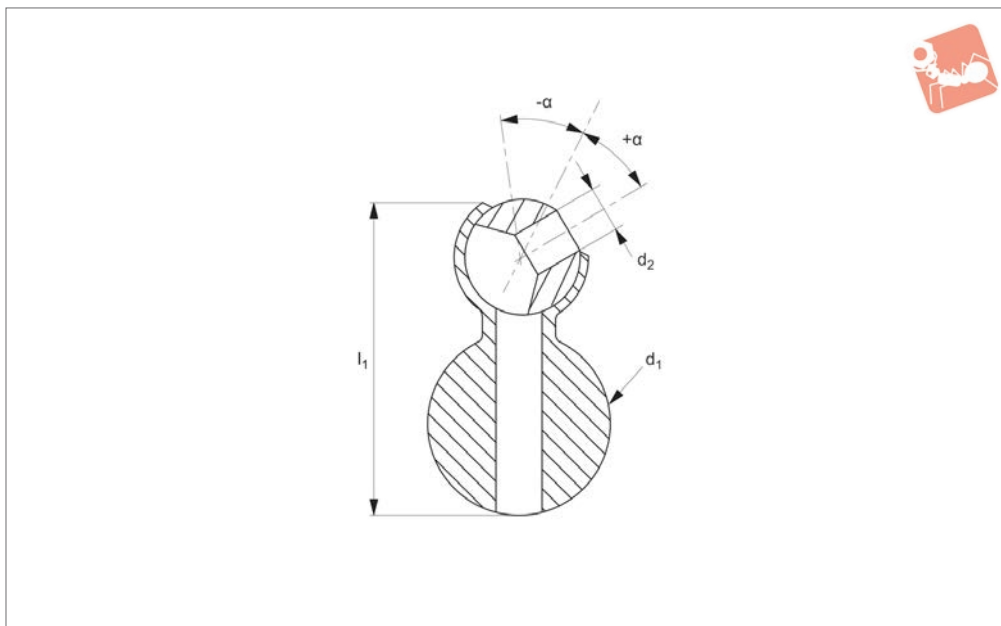




Coolant Nozzles - Bug Eye

max. 10 bar

Coolant Nozzles



20002

COOLANT NOZZLES

Material

Body: acetal.
Ball: stainless steel.

Technical Notes

Max. temperature 70°C.
Max. pressure 10 bar.

symbol α is an angle of adjustment either side of centre line.

For extension tubes see part nos. 20090 and 20092.

For spray tips see part nos. 20080 and 20082.

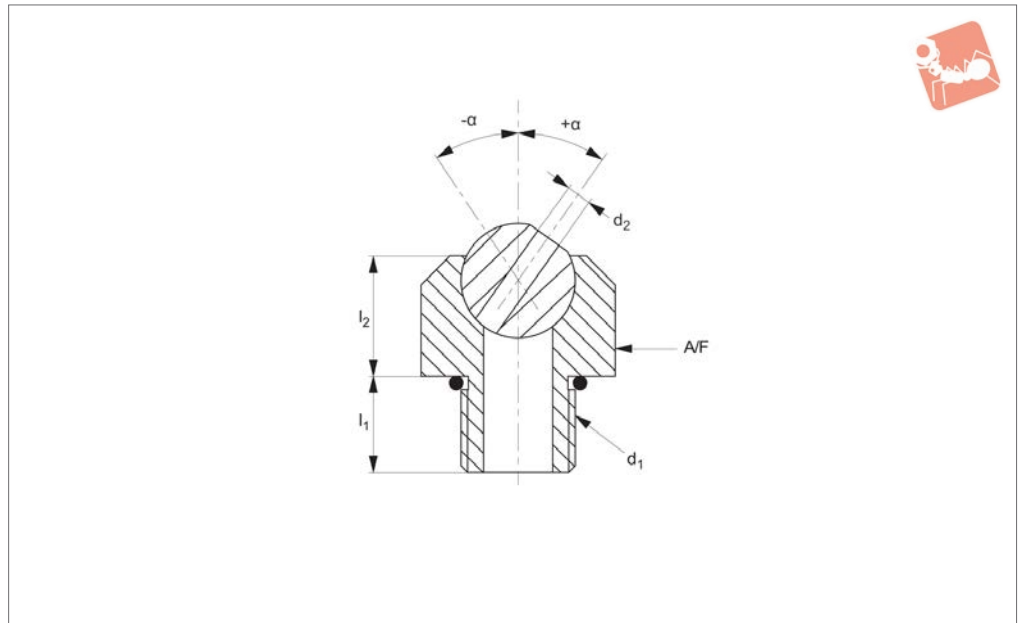
Tips

Extended ball socket for extra „aimability“, still compact. Especially useful for short tool projections.

Order No.	d ₁	d ₂	Jet bore d ₂	l ₁	α
20002.W0120	12	2.8	Plain	28.0	±35°
20002.W0121	12	4.0	Plain	28.0	±35°
20002.W0140	14	2.8	Plain	30.5	±35°
20002.W0141	14	4.0	Plain	30.5	±35°
20002.W0150	15	2.8	Plain	31.2	±35°
20002.W0151	15	4.0	Plain	31.2	±35°
20002.W0220	22	2.8	Plain	38.0	±35°
20002.W0221	22	4.0	Plain	38.0	±35°
20002.W2500	1/2"	2.8	Plain	28.5	±35°
20002.W2501	1/2"	4.0	Plain	28.5	±35°
20002.W2630	5/8"	2.8	Plain	31.2	±35°
20002.W2631	5/8"	4.0	Plain	31.2	±35°
20002.W6120	12	M 6 x 1,0	Threaded	28.0	±35°
20002.W6140	14	M 6 x 1,0	Threaded	30.5	±35°
20002.W6150	15	M 6 x 1,0	Threaded	31.2	±35°
20002.W6220	22	M 6 x 1,0	Threaded	38.0	±35°
20002.W8500	1/2"	M 6 x 1,0	Threaded	28.5	±35°
20002.W8630	5/8"	M 6 x 1,0	Threaded	31.2	±35°



20010



Material

Body: acetal.
Ball: stainless steel.

Technical Notes

Max. temperature 70°C.
Max. pressure 10 bar.
symbol α /symbol is an angle of adjustment

either side of centre line.
For extension tubes see part nos. 20090 and 20092.
For spray tips see part nos. 20080 and 20082.

Tips

Screws into threaded coolant ports. Large

adjustment angle.
Choose large orifice for maximum flow.
Choose smaller orifices when using multiple nozzles.
Choose tapped ends if nozzle will need to be plugged (set screw included).

Order No.	Thread	d ₁	d ₂	Jet bore d ₂	l ₁	l ₂	α	A/F
20010.W0100	Metric Fine	M10x1,25	4.0	Plain	9.1	10.4	±35°	17
20010.W0101	Metric Fine	M10x1,25	2.8	Plain	9.1	10.4	±35°	17
20010.W1101	Metric Coarse	M10x1,50	4.0	Plain	9.1	10.4	±35°	17
20010.W1102	Metric Coarse	M10x1,50	2.8	Plain	9.1	10.4	±35°	17
20010.W1120	Metric Coarse	M12x1,75	4.0	Plain	9.1	10.4	±35°	17
20010.W1121	Metric Coarse	M12x1,75	2.8	Plain	9.9	10.4	±35°	17
20010.W2130	NPT-BSPT	1/8	4.0	Plain	9.9	10.4	±35°	17
20010.W2131	NPT-BSPT	1/8	2.8	Plain	12.7	10.4	±35°	17
20010.W2250	NPT-BSPT	1/4	4.0	Plain	12.7	10.4	±35°	17
20010.W2251	NPT-BSPT	1/4	2.8	Plain	12.7	10.4	±35°	17
20010.W2380	NPT-BSPT	3/8	4.0	Plain	12.7	10.4	±35°	17
20010.W2381	NPT-BSPT	3/8	5.6	Plain	12.7	10.4	±35°	17
20010.W2382	NPT-BSPT	3/8	M 5x0,8	Threaded	9.1	10.4	±35°	17
20010.W6100	Metric Fine	M10x1,25	M 5x0,8	Threaded	9.1	10.4	±35°	17
20010.W7100	Metric Coarse	M10x1,50	M 5x0,8	Threaded	9.1	10.4	±35°	17
20010.W7120	Metric Coarse	M12x1,75	M 5x0,8	Threaded	9.9	10.4	±35°	17
20010.W8130	NPT-BSPT	1/8	M 5x0,8	Threaded	12.7	10.4	±35°	17
20010.W8131	NPT-BSPT	1/4	M 6x1,0	Threaded	12.7	10.4	±35°	17
20010.W8381	NPT-BSPT	3/8	M 6x1,0	Threaded	12.7	10.4	±35°	17

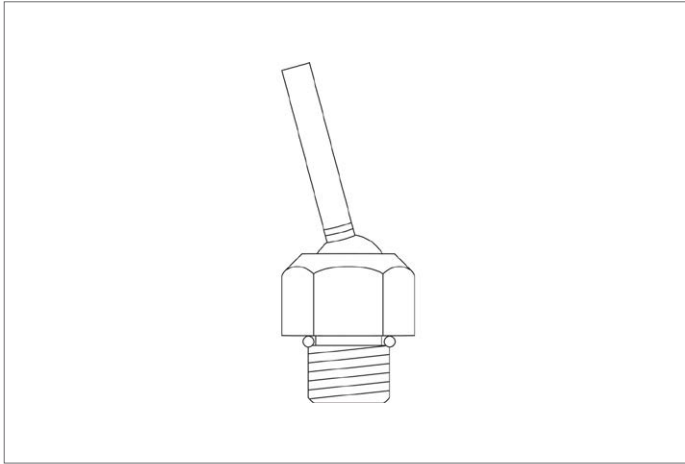


Coolant Nozzles - Jet Bolt - Compact

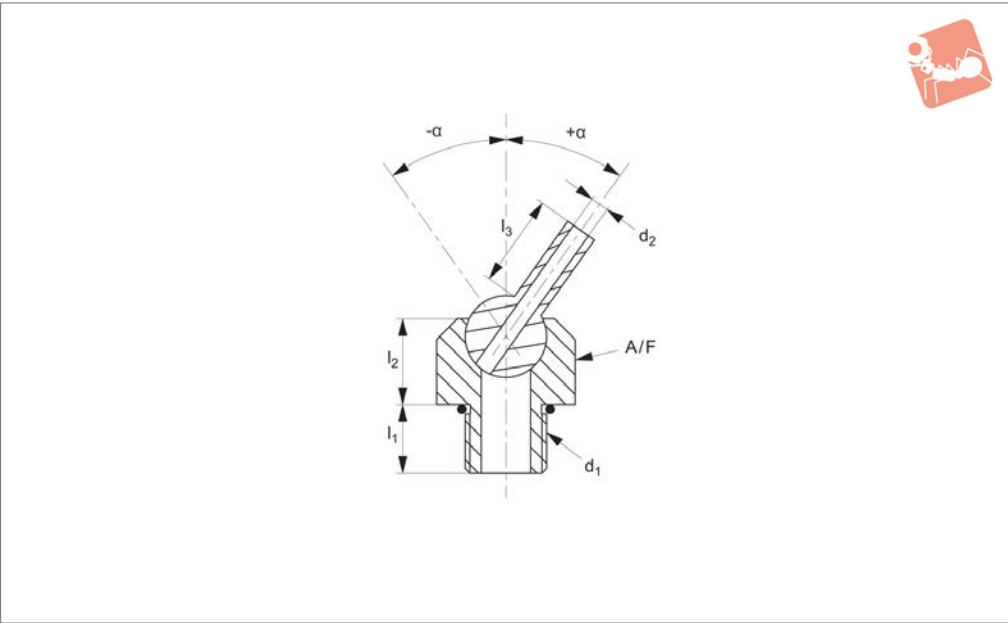
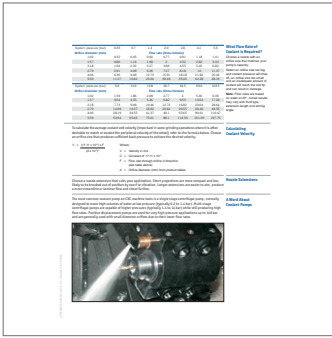
max. 10 bar



Coolant Nozzles



COOLANT NOZZLES



COOLANT NOZZLES

20012

Material

Body: acetal.
Ball and tube: stainless steel.

Technical Notes

Max. temperature 70°C.
Max. pressure 10 bar.

symbola/symbol is an angle of adjustment either side of centre line.

Tips

Screws into threaded coolant ports. Large adjustment angle.
Choose large orifice for maximum flow.

Choose smaller orifices when using multiple nozzles.

Choose tapped ends if nozzle will need to be plugged (set screw included).

Order No.	Thread	d ₁	d ₂	l ₁	l ₂	l ₃	α	A/F
20012.W0100	Metric Fine	M10x1,25	2.8	9.2	10.4	6.4	±35°	17
20012.W0101	Metric Fine	M10x1,25	2.8	9.2	10.4	12.7	±35°	17
20012.W0102	Metric Fine	M10x1,25	2.8	9.2	10.4	31.7	±35°	17
20012.W0103	Metric Fine	M10x1,25	4.0	9.2	10.4	12.7	±35°	17
20012.W0104	Metric Fine	M10x1,25	4.0	9.2	10.4	31.7	±35°	17
20012.W0201	Metric Fine	M20x1,50	4.0	12.7	15.2	19.0	±35°	24
20012.W0202	Metric Fine	M20x1,50	4.0	12.7	15.2	38.0	±35°	24
20012.W0203	Metric Fine	M20x1,50	5.6	12.7	15.2	19.0	±35°	24
20012.W0204	Metric Fine	M20x1,50	5.6	12.7	15.2	38.0	±35°	24
20012.W0205	Metric Fine	M20x1,50	7.1	12.7	15.2	19.0	±35°	24
20012.W0206	Metric Fine	M20x1,50	7.1	12.7	15.2	38.0	±35°	24
20012.W1100	Metric Coarse	M10x1,50	2.8	9.2	10.4	6.4	±35°	17
20012.W1101	Metric Coarse	M10x1,50	2.8	9.2	10.4	12.7	±35°	17
20012.W1102	Metric Coarse	M10x1,50	2.8	9.2	10.4	31.7	±35°	17
20012.W1103	Metric Coarse	M10x1,50	4.0	9.2	10.4	12.7	±35°	17
20012.W1104	Metric Coarse	M10x1,50	4.0	9.2	10.4	31.7	±35°	17
20012.W1121	Metric Coarse	M12x1,75	2.8	9.2	10.4	6.4	±35°	17
20012.W1122	Metric Coarse	M12x1,75	2.8	9.2	10.4	12.7	±35°	17
20012.W1123	Metric Coarse	M12x1,75	2.8	9.2	10.4	31.7	±35°	17
20012.W1124	Metric Coarse	M12x1,75	4.0	9.2	10.4	12.7	±35°	17
20012.W1125	Metric Coarse	M12x1,75	4.0	9.2	10.4	31.7	±35°	17
20012.W2130	NPT-BSPT	1/8"	2.8	9.9	10.4	6.4	±35°	17
20012.W2131	NPT-BSPT	1/8"	2.8	9.9	10.4	12.7	±35°	17
20012.W2132	NPT-BSPT	1/8"	2.8	9.9	10.4	31.7	±35°	17
20012.W2133	NPT-BSPT	1/8"	4.0	9.9	10.4	12.7	±35°	17
20012.W2134	NPT-BSPT	1/8"	4.0	9.9	10.4	31.7	±35°	17
20012.W2250	NPT-BSPT	1/4"	2.8	12.7	10.4	6.4	±35°	17
20012.W2251	NPT-BSPT	1/4"	2.8	12.7	10.4	12.7	±35°	17
20012.W2252	NPT-BSPT	1/4"	2.8	12.7	10.4	31.7	±35°	17
20012.W2253	NPT-BSPT	1/4"	4.0	12.7	10.4	12.7	±35°	17
20012.W2254	NPT-BSPT	1/4"	4.0	12.7	10.4	31.7	±35°	17
20012.W2380	NPT-BSPT	3/8"	2.8	12.7	10.4	12.7	±35°	17



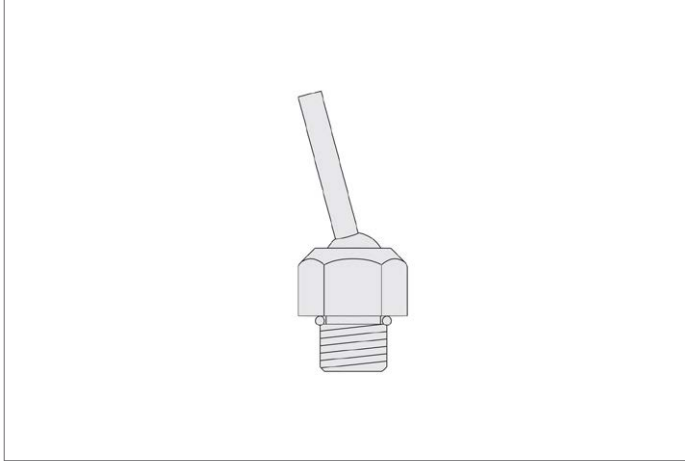
Coolant Nozzles - Jet Bolt

with tube - max. 10 bar

Coolant Nozzles

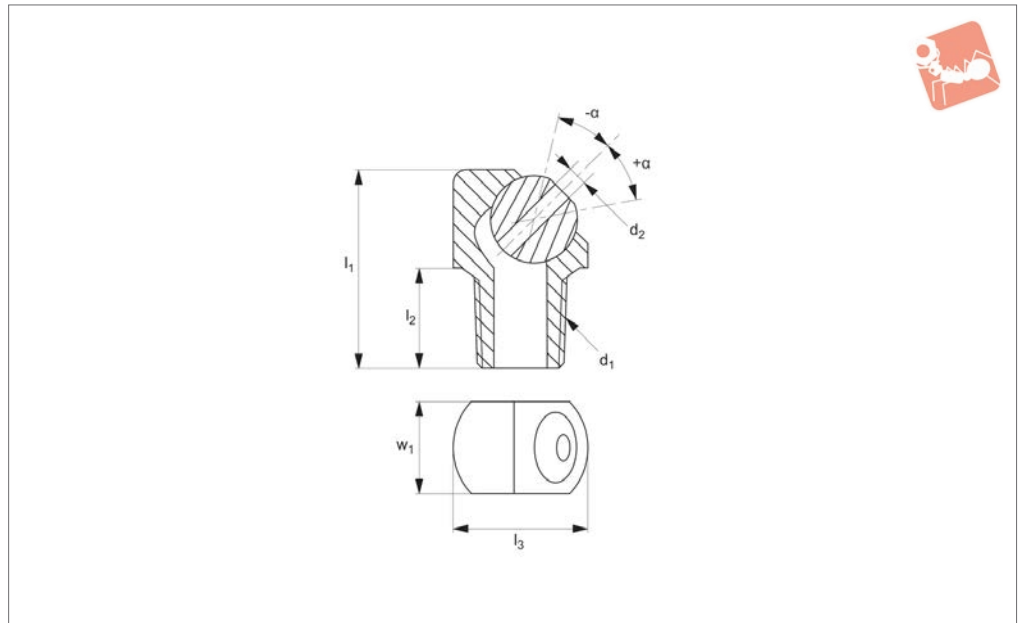


Order No.	Thread	d ₁	d ₂	l ₁	l ₂	l ₃	α	A/F
20012.W2381	NPT-BSPT	3/8"	2.8	12.7	10.4	31.7	±35°	17
20012.W2382	NPT-BSPT	3/8"	4.0	12.7	10.4	12.7	±35°	17
20012.W2383	NPT-BSPT	3/8"	4.0	12.7	10.4	31.7	±35°	17
20012.W2384	NPT-BSPT	3/8"	5.6	12.7	10.4	12.7	±35°	17
20012.W2385	NPT-BSPT	3/8"	5.6	12.7	10.4	31.7	±35°	17





20016



Material

Body: acetal.
Ball: stainless steel.

Technical Notes

Max. temperature 70°C.
Max. pressure 10 bar.
symbol α /symbol is an angle of adjustment either side of centre line.

For extension tubes see part nos. 20090 and 20092.

For spray tips see part nos. 20080 and 20082.

Tips

Converts any NPT or BSPT hole to a fully adjustable nozzle.

Easy adjustment.

Choose large orifice for maximum flow and smaller orifices when using multiple nozzles.

Choose tapped tube if the nozzles needs to be plugged (set screw included).

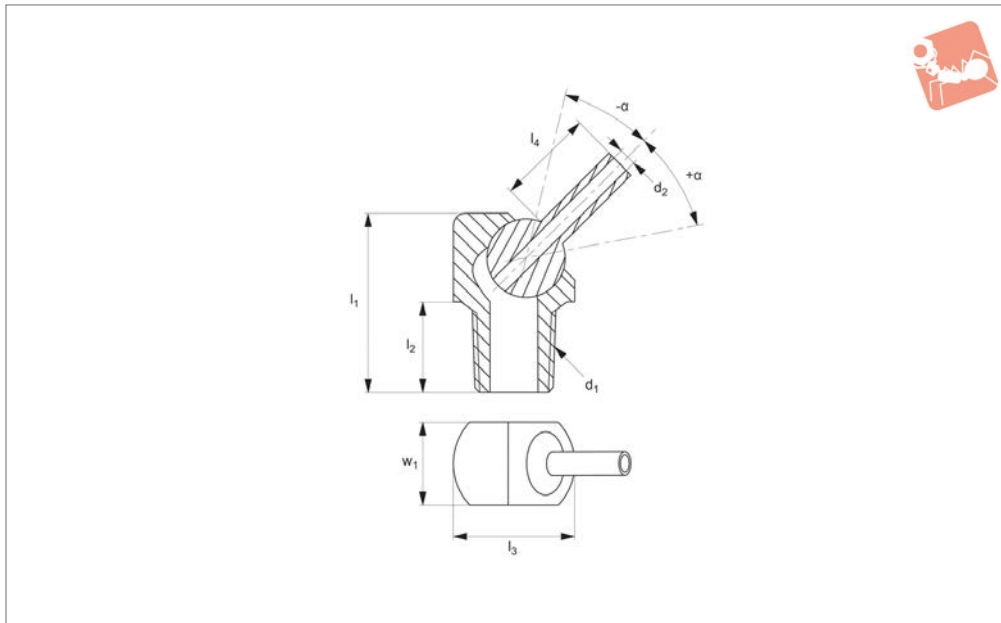
Order No.	d ₁	d ₂	Jet bore d ₂	l ₁	l ₂	l ₃	w ₁	α
20016.W2060	1/16" NPT/BSPT	2.8	Plain	17.5	7.9	12.7	11.2	±35°
20016.W2061	1/16" NPT/BSPT	4.0	Plain	17.5	7.9	12.7	11.2	±35°
20016.W2120	1/8" NPT/BSPT	2.8	Plain	20.8	9.7	16.0	12.7	±35°
20016.W2121	1/8" NPT/BSPT	4.0	Plain	20.8	9.7	16.0	12.7	±35°
20016.W2250	1/4" NPT/BSPT	2.8	Plain	23.9	11.2	19.1	16.0	±35°
20016.W2251	1/4" NPT/BSPT	4.0	Plain	23.9	11.2	19.1	16.0	±35°
20016.W2370	3/8" NPT/BSPT	2.8	Plain	28.7	12.7	22.4	19.1	±35°
20016.W2371	3/8" NPT/BSPT	4.0	Plain	28.7	12.7	22.4	19.1	±35°
20016.W2372	3/8" NPT/BSPT	5.6	Plain	28.7	12.7	22.4	19.1	±35°
20016.W8060	1/16" NPT/BSPT	M 4x0,7	Threaded	17.5	7.9	12.7	11.2	±35°
20016.W8120	1/8" NPT/BSPT	M 5x0,8	Threaded	20.8	9.7	16.0	12.7	±35°
20016.W8250	1/4" NPT/BSPT	M 5x0,8	Threaded	23.9	11.2	19.1	16.0	±35°
20016.W8370	3/8" NPT/BSPT	M 6x1,0	Threaded	28.7	12.7	22.4	19.1	±35°



Coolant Nozzles - Turret Jet

with tube - max. 10 bar

Coolant Nozzles



20018

COOLANT NOZZLES

Material

Body: acetal.
Ball and tube: stainless steel.

Max. pressure 10 bar.
symbola/symbol is an angle of adjustment
either side of centre line.

adjustable nozzle.
Easy adjustment.
Choose large orifice for maximum flow and
smaller orifices when using multiple
nozzles.

Technical Notes

Max. temperature 70°C.

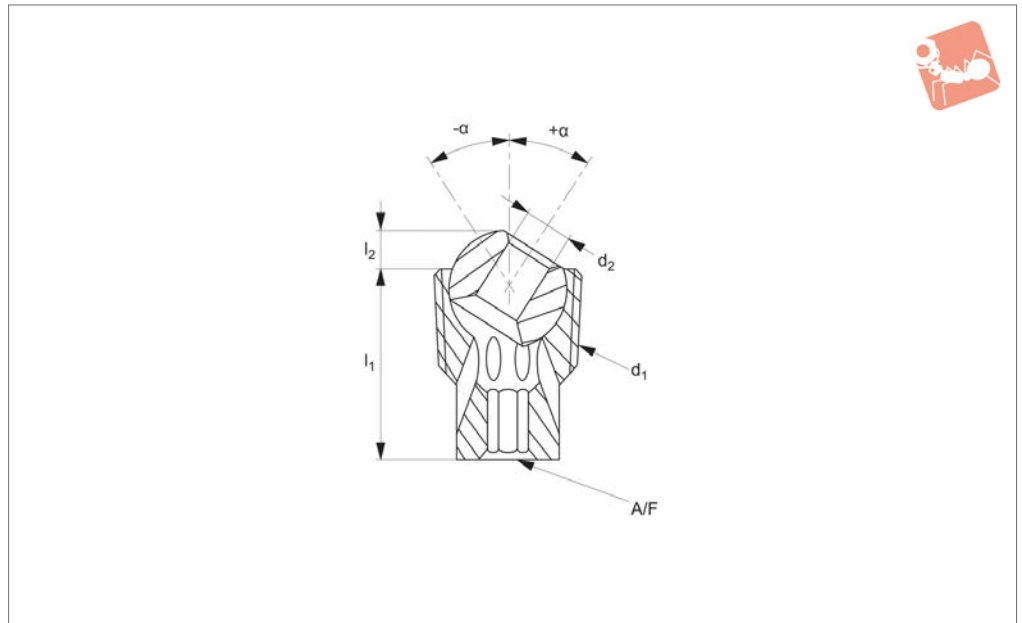
Tips

Converts any NPT or BSPT hole to a fully

Order No.	d ₁	d ₂	l ₁	l ₂	l ₃	l ₄	w ₁	α
20018.W2060	1/16" NPT/BSPT	2.2	17.5	7.9	12.7	6.4	11.2	±35°
20018.W2061	1/16" NPT/BSPT	2.2	17.5	7.9	12.7	12.7	11.2	±35°
20018.W2062	1/16" NPT/BSPT	2.2	17.5	7.9	12.7	31.7	11.2	±35°
20018.W2063	1/16" NPT/BSPT	2.8	17.5	7.9	12.7	6.4	11.2	±35°
20018.W2064	1/16" NPT/BSPT	2.8	17.5	7.9	12.7	12.7	11.2	±35°
20018.W2065	1/16" NPT/BSPT	2.8	17.5	7.9	12.7	31.7	11.2	±35°
20018.W2121	1/8" NPT/BSPT	2.8	20.8	9.7	16.0	6.4	12.7	±35°
20018.W2122	1/8" NPT/BSPT	2.8	20.8	9.7	16.0	12.7	12.7	±35°
20018.W2123	1/8" NPT/BSPT	2.8	20.8	9.7	16.0	31.7	12.7	±35°
20018.W2124	1/8" NPT/BSPT	4.0	20.8	9.7	16.0	12.7	12.7	±35°
20018.W2125	1/8" NPT/BSPT	4.0	20.8	9.7	16.0	31.7	12.7	±35°
20018.W2250	1/4" NPT/BSPT	2.8	23.9	11.2	19.1	6.4	16.0	±35°
20018.W2251	1/4" NPT/BSPT	2.8	23.9	11.2	19.1	12.7	16.0	±35°
20018.W2252	1/4" NPT/BSPT	2.8	23.9	11.2	19.1	31.7	16.0	±35°
20018.W2253	1/4" NPT/BSPT	4.0	23.9	11.2	19.1	12.7	16.0	±35°
20018.W2254	1/4" NPT/BSPT	4.0	23.9	11.2	19.1	31.7	16.0	±35°
20018.W2370	3/8" NPT/BSPT	2.8	28.7	12.7	22.4	31.7	19.1	±35°
20018.W2371	3/8" NPT/BSPT	4.0	28.7	12.7	22.4	12.7	19.1	±35°
20018.W2372	3/8" NPT/BSPT	4.0	28.7	12.7	22.4	31.7	19.1	±35°
20018.W2373	3/8" NPT/BSPT	5.6	28.7	12.7	22.4	12.7	19.1	±35°
20018.W2374	3/8" NPT/BSPT	5.6	28.7	12.7	22.4	31.7	19.1	±35°



20020



Material

Body: acetal.
Ball: stainless steel.

Max. pressure 10 bar.
symbola/symbol is an angle of adjustment
either side of centre line.

Insert hex. key (provided), into the top of
the nozzle until it engages with the hex.
socket. Screw in until the body is flush.

Technical Notes

Max. temperature 70°C.

Tips

Screw-in, flush mount coolant nozzles.

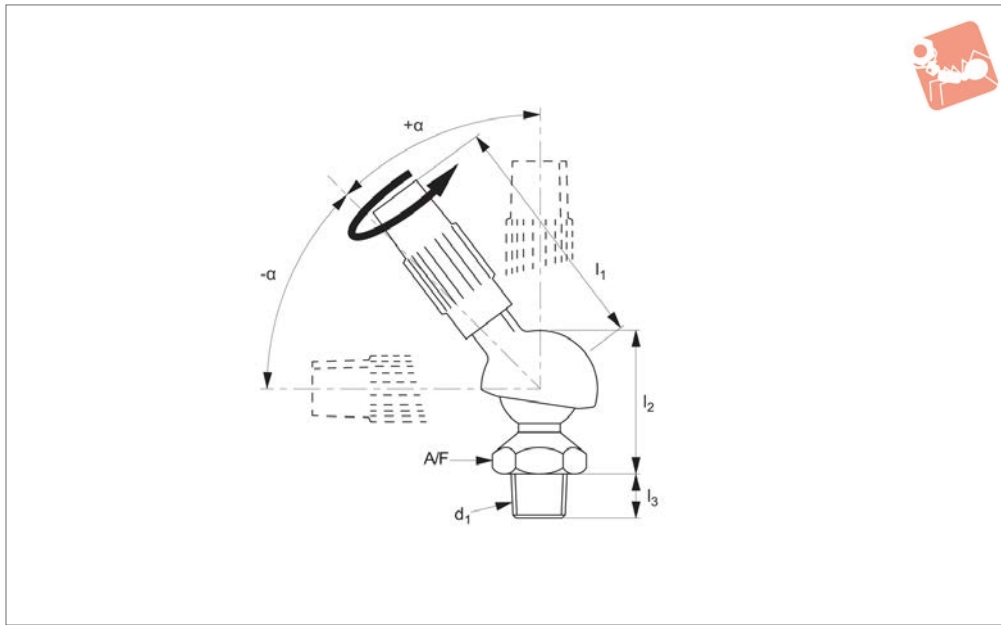
Order No.	d ₁	d ₂	l ₁	l ₂	α	A/F
20020.W2121	1/8" NPT	4.0	12.7	3.0	±35°	9/64"
20020.W2122	1/8" BSPT	4.0	12.7	3.0	±35°	9/64"
20020.W2250	1/4" NPT/BSPT	4.0	15.7	3.8	±40°	9/64"
20020.W2370	3/8" NPT/BSPT	5.6	19.1	4.6	±40°	3/16"



Coolant Nozzles - Mill Jet

max. 6,7 bar

Coolant Nozzles



20024

COOLANT NOZZLES

Material

Acetal.

Technical Notes

Max. temperature 70°C.

Max. pressure 10 bar.

symbol α/symbol is an angle of adjustment either side of centre line.

Recommended coolant filtration - 100 microns.

Tips

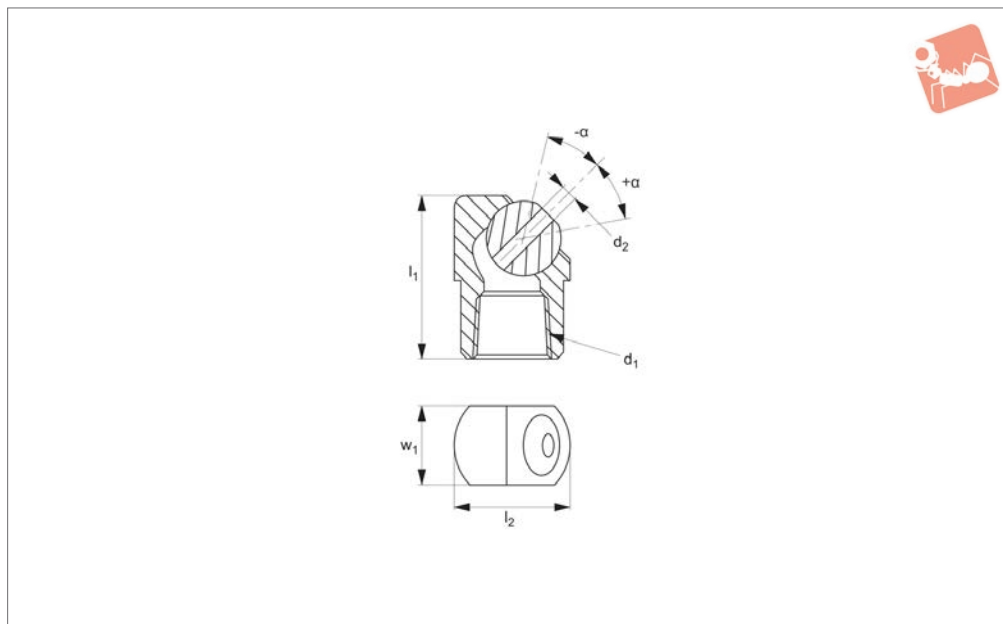
Adjustable spray nozzle, from full shut-off to fine spray, to direct stream.

Remains in position.

Order No.	Angle	Rotation	d ₁	l ₁	l ₂	l ₃	α	A/F
20024.W2120	90°	360°	1/4" NPT/BSPT	43	27	11	±45°	16
20024.W2250	90°	360°	1/8" NPT/BSPT	43	27	11	±45°	16



20031



Material

Body: acetal.
Ball: stainless steel.

Technical Notes

Max. temperature 70°C.
Max. pressure 10 bar.

symbola/symbol is an angle of adjustment either side of centre line.

Can be used with brass connector 20034.

Tips

Screws onto any NPT or BSPT pipe.
Choose large orifice for maximum flow and

smaller orifices when using multiple nozzles.

Choose tapped tube if the nozzles needs to be plugged (set screw included).

Order No.	d ₁	d ₂	Jet bore d ₂	l ₁	l ₂	w ₁	α
20031.W2120	1/8" NPT/BSPT	2.8	Plain	20.8	16.0	12.7	±35°
20031.W2121	1/8" NPT/BSPT	4.0	Plain	20.8	16.0	12.7	±35°
20031.W2250	1/4" NPT/BSPT	2.8	Plain	23.9	19.1	16.0	±35°
20031.W2251	1/4" NPT/BSPT	4.0	Plain	23.9	19.1	16.0	±35°
20031.W2370	3/8" NPT/BSPT	2.8	Plain	28.7	22.4	19.1	±35°
20031.W2371	3/8" NPT/BSPT	4.0	Plain	28.7	22.4	19.1	±35°
20031.W2372	3/8" NPT/BSPT	5.5	Plain	28.7	22.4	19.1	±35°
20031.W8120	1/8" NPT/BSPT	M 5x0,8	Threaded	20.8	16.0	12.7	±35°
20031.W8250	1/4" NPT/BSPT	M 5x0,8	Threaded	23.9	19.1	16.0	±35°
20031.W8370	3/8" NPT/BSPT	M 6x1,0	Threaded	28.7	22.4	19.1	±35°

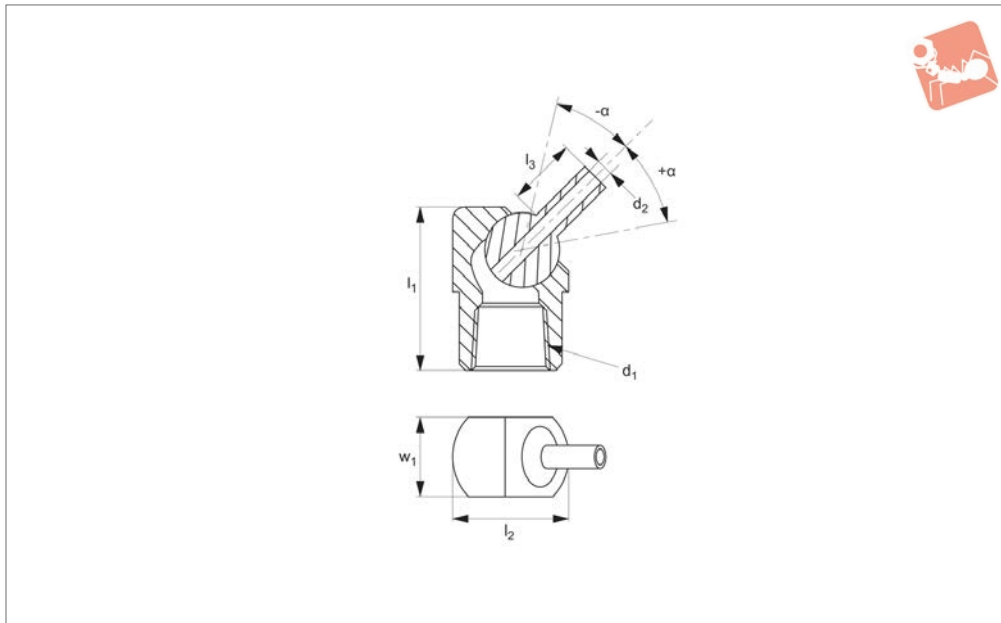




Coolant Nozzles - Cap Jet

with tube - max. 10 bar

Coolant Nozzles



20032

COOLANT NOZZLES

Material

Body: acetal.
Ball and tube: stainless steel.

Technical Notes

Max. temperature 70°C.
Max. pressure 10 bar.

symbola/symbol is an angle of adjustment either side of centre line.

Can be used with brass connector 20034.

Tips

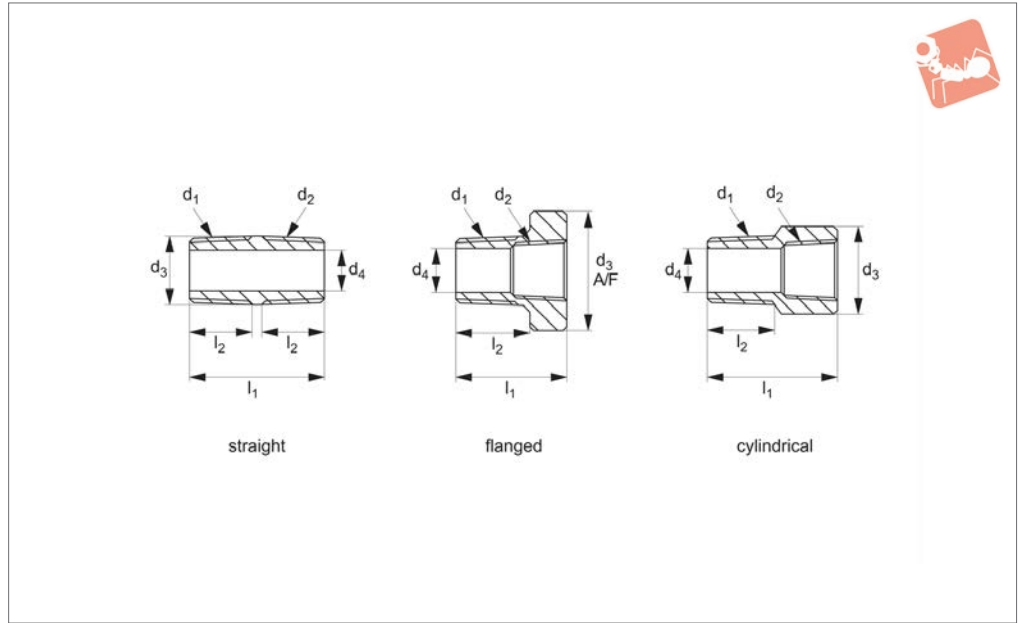
Screws onto any NPT or BSPT pipe.
Choose large orifice for maximum flow and

smaller orifices when using multiple nozzles.
Choose tapped tube if the nozzles needs to be plugged (set screw included).

Order No.	d ₁	d ₂	l ₁	l ₂	l ₃	w ₁	α
20032.W2120	1/8" NPT/BSPT	2.8	20.8	16.0	6.4	12.7	±35°
20032.W2121	1/8" NPT/BSPT	2.8	20.8	16.0	12.7	12.7	±35°
20032.W2122	1/8" NPT/BSPT	2.8	20.8	16.0	31.7	12.7	±35°
20032.W2123	1/8" NPT/BSPT	4.0	20.8	16.0	12.7	12.7	±35°
20032.W2124	1/8" NPT/BSPT	4.0	20.8	16.0	31.7	12.7	±35°
20032.W2250	1/4" NPT/BSPT	2.8	23.9	19.1	6.4	16.0	±35°
20032.W2251	1/4" NPT/BSPT	2.8	23.9	19.1	12.7	16.0	±35°
20032.W2252	1/4" NPT/BSPT	2.8	23.9	19.1	31.7	16.0	±35°
20032.W2253	1/4" NPT/BSPT	4.0	23.9	19.1	12.7	16.0	±35°
20032.W2254	1/4" NPT/BSPT	4.0	23.9	19.1	31.7	16.0	±35°
20032.W2370	3/8" NPT/BSPT	4.0	28.7	22.4	31.7	19.1	±35°
20032.W2371	3/8" NPT/BSPT	4.0	28.7	22.4	12.7	19.1	±35°
20032.W2372	3/8" NPT/BSPT	5.6	28.7	22.4	12.7	19.1	±35°
20032.W2373	3/8" NPT/BSPT	5.6	28.7	22.4	31.7	19.1	±35°



20034



Material

Body: acetal or brass.

Technical Notes

Acetal Type:

Max. temperature: 70°C.

Max. pressure: 10 bar.

Brass Type:

Max. temperature: 150°C.

Max. pressure: 100 bar.

Connector only.

Tips

Fits both NPT and BSPT threads - allows you to use inch or metric fittings and nozzles. Particularly useful for 20018 (turret jets) and 20032 (cap jets).

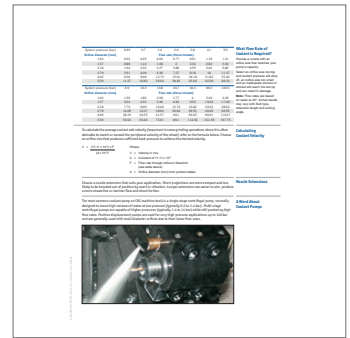
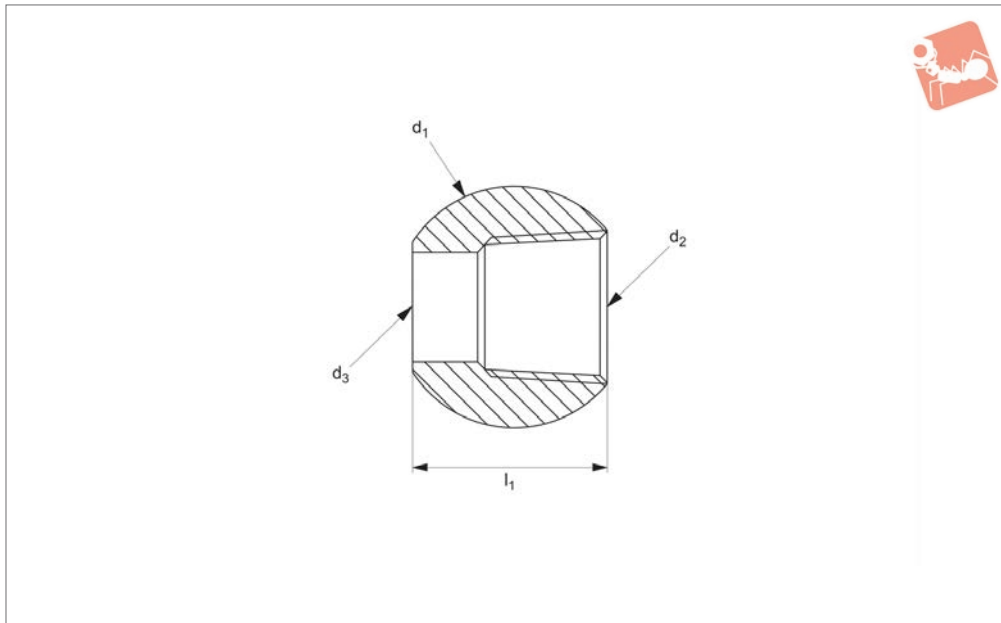
Order No.	Material	Type	d ₃	d ₄	l ₁	l ₂	Thread d ₁	Thread d ₂
20034.W3120-A	Acetal	Straight	10.4	6.4	20.0	10	1/8" NPT/BSPT	1/8" NPT/BSPT
20034.W3250-A	Acetal	Straight	13.5	7.9	22.0	11	1/4" NPT/BSPT	1/4" NPT/BSPT
20034.W3370-A	Acetal	Straight	16.8	11.2	25.0	13	3/8" NPT/BSPT	3/8" NPT/BSPT
20034.W3121-A	Acetal	Straight	10.4	6.4	38.0	9	1/8" NPT/BSPT	1/8" NPT/BSPT
20034.W3251-A	Acetal	Straight	13.5	7.9	38.0	11	1/4" NPT/BSPT	1/4" NPT/BSPT
20034.W3371-A	Acetal	Straight	16.8	11.2	38.0	13	3/8" NPT/BSPT	3/8" NPT/BSPT
20034.W4250-A	Acetal	Flanged	14.2	7.9	16.5	11	1/4" NPT/BSPT	1/8" NPT/BSPT
20034.W4370-A	Acetal	Flanged	19.0	10.7	18.5	13	3/8" NPT/BSPT	1/4" NPT/BSPT
20034.W5120-A	Acetal	Cylindrical	11.7	6.4	20.0	10	1/8" NPT/BSPT	1/8" NPT/BSPT
20034.W5250-A	Acetal	Cylindrical	15.2	7.9	24.0	13	1/4" NPT/BSPT	1/4" NPT/BSPT
20034.W5370-A	Acetal	Cylindrical	18.5	9.4	26.0	14	3/8" NPT/BSPT	3/8" NPT/BSPT
20034.W3120-B	Brass	Straight	10.4	6.3	20.0	10	1/8" NPT/BSPT	1/8" NPT/BSPT
20034.W3250-B	Brass	Straight	13.5	7.9	22.0	11	1/4" NPT/BSPT	1/4" NPT/BSPT
20034.W3370-B	Brass	Straight	16.8	11.2	25.0	13	3/8" NPT/BSPT	3/8" NPT/BSPT
20034.W3121-B	Brass	Straight	10.4	6.4	38.0	9	1/8" NPT/BSPT	1/8" NPT/BSPT
20034.W3251-B	Brass	Straight	13.5	7.9	38.0	11	1/4" NPT/BSPT	1/4" NPT/BSPT
20034.W3371-B	Brass	Straight	16.8	11.2	38.0	13	3/8" NPT/BSPT	3/8" NPT/BSPT
20034.W4120-B	Brass	Flanged	14.2	7.0	20.6	13	M12x1,75	1/8" NPT/BSPT
20034.W4140-B	Brass	Flanged	15.7	7.9	10.2	7	M14x1,00	1/8" NPT/BSPT
20034.W4250-B	Brass	Flanged	14.2	7.9	16.5	11	1/4" NPT/BSPT	1/8" NPT/BSPT
20034.W4370-B	Brass	Flanged	19.0	10.7	18.5	13	3/8" NPT/BSPT	1/4" NPT/BSPT
20034.W5120-B	Brass	Cylindrical	11.7	6.4	20.0	10	1/8" NPT/BSPT	1/8" NPT/BSPT
20034.W5250-B	Brass	Cylindrical	15.2	7.9	24.0	13	1/4" NPT/BSPT	1/4" NPT/BSPT
20034.W5370-B	Brass	Cylindrical	18.5	9.4	26.0	14	3/8" NPT/BSPT	3/8" NPT/BSPT



Coolant Nozzles - Adapter Balls

max. 10 bar

Coolant Nozzles



20035

COOLANT NOZZLES

Material

Acetal or brass.

Technical Notes

Acetal Type:

Max. temperature: 70°C.

Max. pressure: 10 bar.

Brass type:

Max. temperature: 150°C.

Max. pressure: 33 bar.

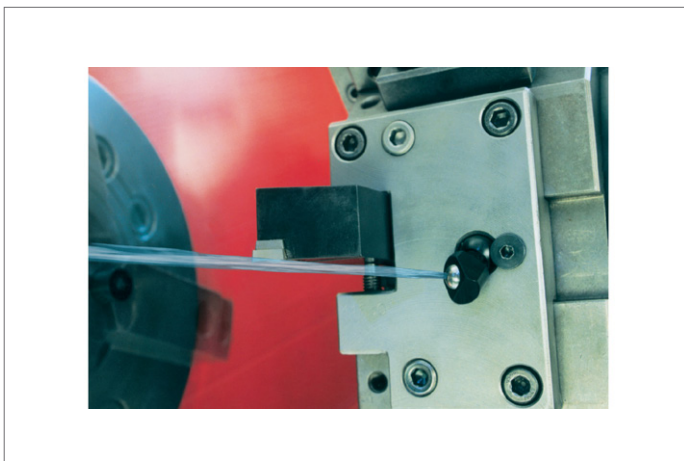
Ball adapter only.

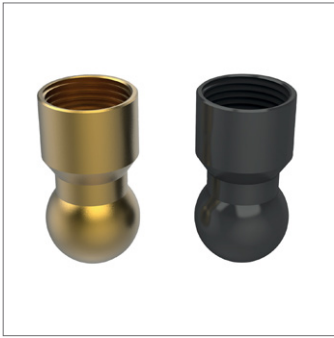
Can be used with our relevant threaded coolant nozzles.

Tips

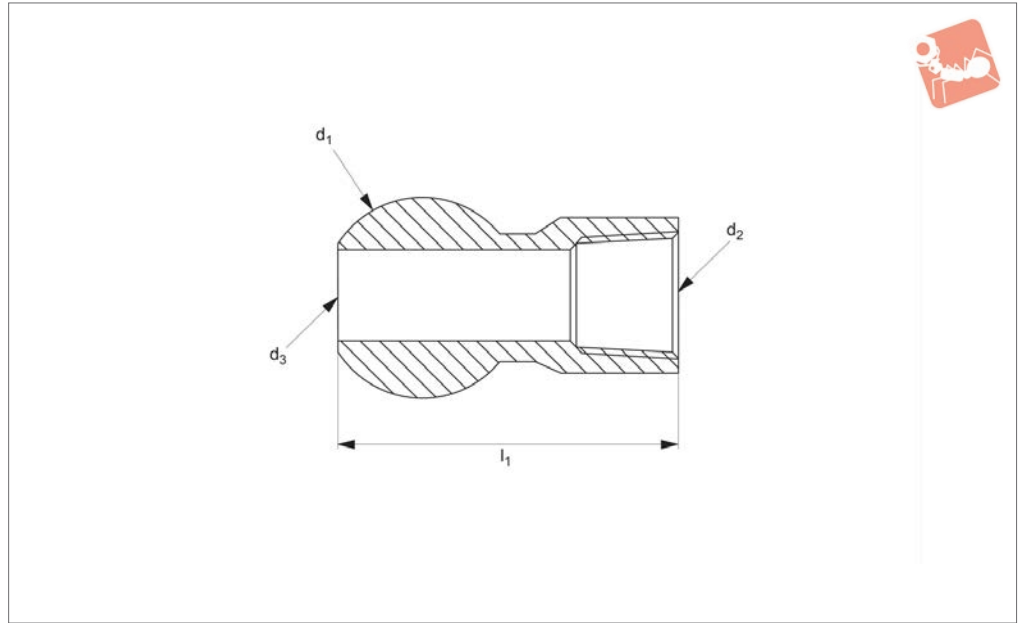
Fits both NPT and BSPT threads - allows you to use inch or metric fittings and nozzles. Particularly useful for 20018 (turret jets) and 20032 (cap jets).

Order No.	Type	d ₁	d ₃	l ₁	Thread d ₂
20035.W6140-A	Acetal	14	6.4	9.7	1/8" NPT/BSPT
20035.W6150-A	Acetal	15	6.4	10.9	1/8" NPT/BSPT
20035.W6220-A	Acetal	22	6.4	18.8	1/8" NPT/BSPT
20035.W8630-A	Acetal	5/8"	6.4	11.9	1/8" NPT/BSPT
20035.W6140-B	Brass	14	7/32" Hex.	9.9	1/8" NPT/BSPT
20035.W6150-B	Brass	15	7/32" Hex.	11.4	1/8" NPT/BSPT
20035.W6220-B	Brass	22	7/32" Hex.	19.6	1/8" NPT/BSPT
20035.W8630-B	Brass	5/8"	7/32" Hex.	12.5	1/8" NPT/BSPT





20036



Material

Acetal or brass.

Max. temp: 70°C.
Max. pressure: 10 bar.

Max. pressure: 33 bar.
Extended ball adapter only.

Technical Notes

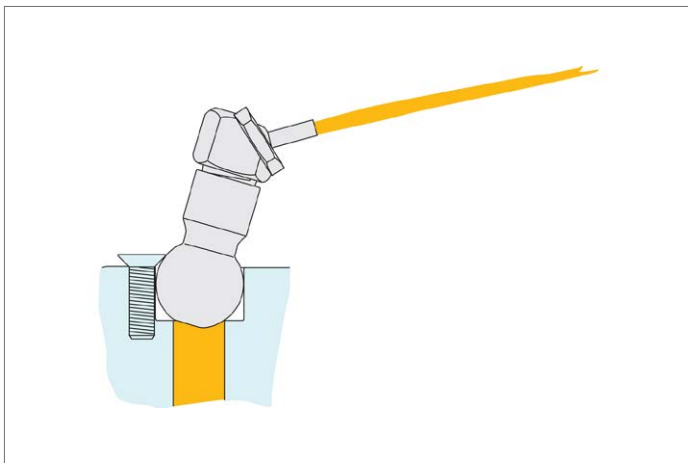
Acetal type:

Brass type:
Max. temperature: 150°C.

Tips

Can be fitted to 1/8" NPT/BSPT fittings.

Order No.	Type	d ₁	d ₃	l ₁	Thread d ₂
20036.W6120-A	Acetal	12	6.4	23.1	1/8" NPT/BSPT
20036.W8500-A	Acetal	1/2"	6.4	23.9	1/8" NPT/BSPT
20036.W6120-B	Brass	12	7/32" Hex.	22.9	1/8" NPT/BSPT
20036.W8500-B	Brass	1/2"	7/32" Hex.	23.9	1/8" NPT/BSPT

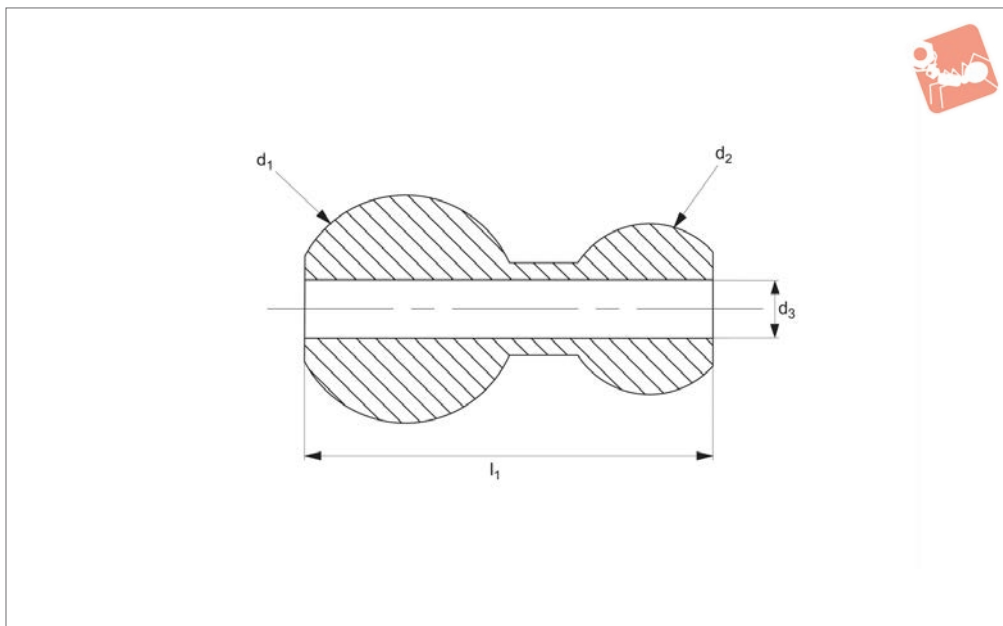




Loc-Line Adapters

max. 10-33 bar

Coolant Nozzles



20037

COOLANT NOZZLES

Material

Acetal or brass.

Technical Notes

Acetal type:

Max. temperature: 70°C.

Max. pressure: 10 bar.

Brass type:

Max. temperature: 150°C.

Max. pressure: 33 bar.

Tips

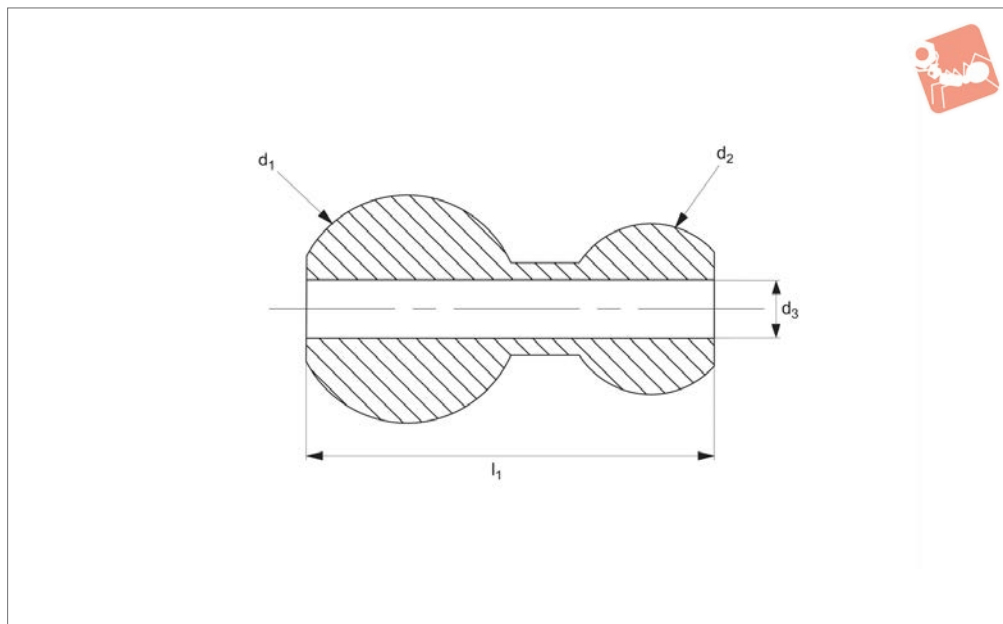
Adapters to allow Loc-Line coolant hose to be used on any machine that employs screw lock balls.

Loc-Line: a trademark of Lockwood Inc.

Order No.	Type	d ₁	d ₂	d ₃	l ₁	Pressure Bar max.
20037.W0100-A	Acetal	10	Loc-Line 1/4"	6.3	16.0	10
20037.W0120-A	Acetal	12	Loc-Line 1/4"	6.3	17.0	10
20037.W0140-A	Acetal	14	Loc-Line 1/4"	6.3	19.3	10
20037.W0150-A	Acetal	15	Loc-Line 1/4"	6.3	20.6	10
20037.W0220-A	Acetal	22	Loc-Line 1/4"	6.3	28.5	10
20037.W0250-A	Acetal	1/2"	Loc-Line 1/4"	6.3	18.0	10
20037.W0265-A	Acetal	5/8"	Loc-Line 1/4"	6.3	22.0	10
20037.W0100-B	Brass	10	Loc-Line 1/4"	6.3	16.3	33
20037.W0120-B	Brass	12	Loc-Line 1/4"	6.3	17.0	33
20037.W0140-B	Brass	14	Loc-Line 1/4"	6.3	19.6	33
20037.W0150-B	Brass	15	Loc-Line 1/4"	6.3	20.6	33
20037.W0220-B	Brass	22	Loc-Line 1/4"	6.3	29.2	33
20037.W0250-B	Brass	1/2"	Loc-Line 1/4"	6.3	18.0	33
20037.W0265-B	Brass	5/8"	Loc-Line 1/4"	6.3	22.0	33



20038



Material
Acetal.

Max. pressure: 10 bar.

screw lock balls.

Technical Notes

Max. temperature: 70°C.

Tips

Adapters to allow Snap-Loc coolant hose to be used on any machine that employs

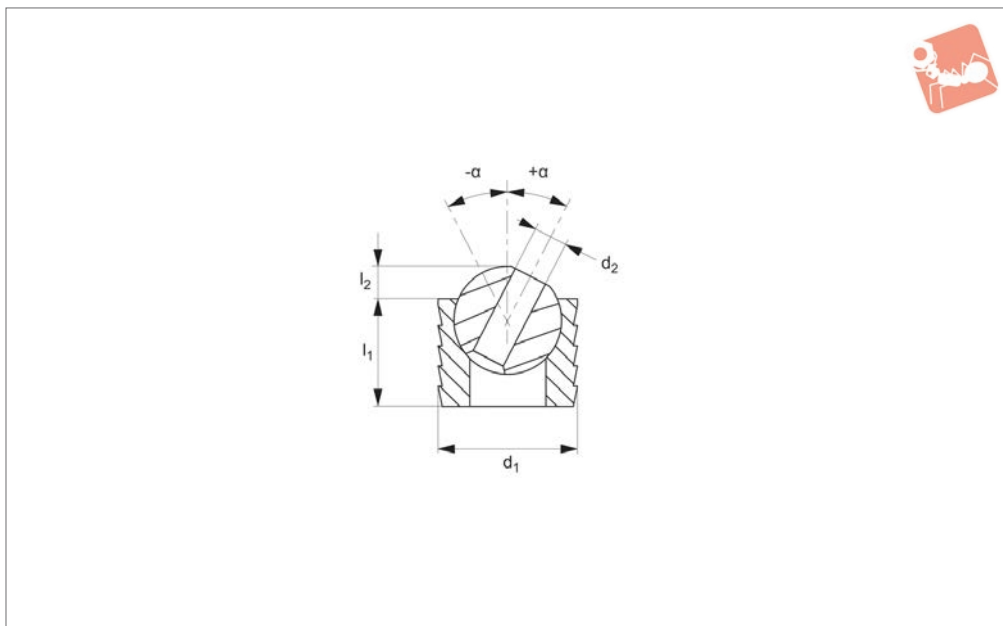
Order No.	d ₁	d ₂	d ₃	l ₁	Pressure Bar max.
20038.W0120	12	Snap-Loc 1/4"	6.3	19.3	10
20038.W0140	14	Snap-Loc 1/4"	6.3	21.3	10
20038.W0150	15	Snap-Loc 1/4"	6.3	22.6	10
20038.W0220	22	Snap-Loc 1/4"	6.3	30.5	10
20038.W0250	1/2"	Snap-Loc 1/4"	6.3	20.1	10
20038.W0263	5/8"	Snap-Loc 1/4"	6.3	24.1	10



Coolant Nozzles - Press In

max. 10 bar

Coolant Nozzles



20042

COOLANT NOZZLES

Material

Body: acetal.
Ball: stainless steel.

Max. pressure 10 bar.
symbola/symbol is an angle of adjustment either side of centre line.

diameter -0, +0,05mm or -0, +0,002"inch) then press in the coolant nozzle until the body is flush.

Technical Notes

Max. temperature 70°C.

Tips

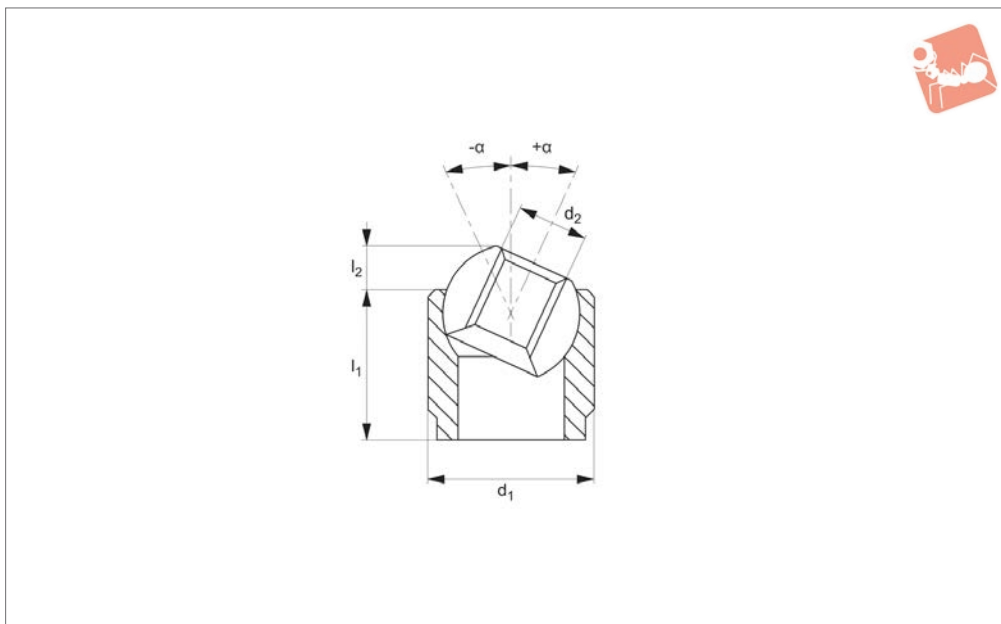
Simply drill and ream hole (to nominal

Ideal for special tooling, CNC lathe tooling etc.

Order No.	For install hole size	d ₁ nom.	d ₂	l ₁	l ₂	α
20042.W0060	6,00 - 6,04	6	1.5	4.8	1.3	±35°
20042.W0061	6,00 - 6,04	6	2.0	4.8	1.3	±35°
20042.W0080	8,00 - 8,05	8	2.8	6.4	1.5	±35°
20042.W0100	10,00 - 10,05	10	4.0	7.9	2.0	±35°
20042.W0120	12,00 - 12,05	12	4.0	9.2	2.5	±35°
20042.W0140	14,00 - 14,05	14	5.6	11.1	3.3	±35°
20042.W0150	15,00 - 15,05	15	5.6	11.1	3.3	±35°
20042.W2120	6,35 - 6,39	1/4"	2.0	4.8	1.3	±35°
20042.W2310	7,94 - 7,99	5/16"	2.8	6.4	1.5	±35°
20042.W2370	9,53 - 9,58	3/8"	4.0	7.9	2.0	±35°
20042.W3440	11,11 - 11,16	7/16"	4.0	9.2	2.5	±35°
20042.W3560	14,29 - 14,34	9/16"	5.6	11.1	3.3	±35°
20042.W2630	15,88 - 15,93	5/8"	5.6	11.1	3.3	±35°



20044



Material

Body: acetal.
Ball: stainless steel.

Technical Notes

Max. temperature: 70°C.
Max. pressure: 10 bar.

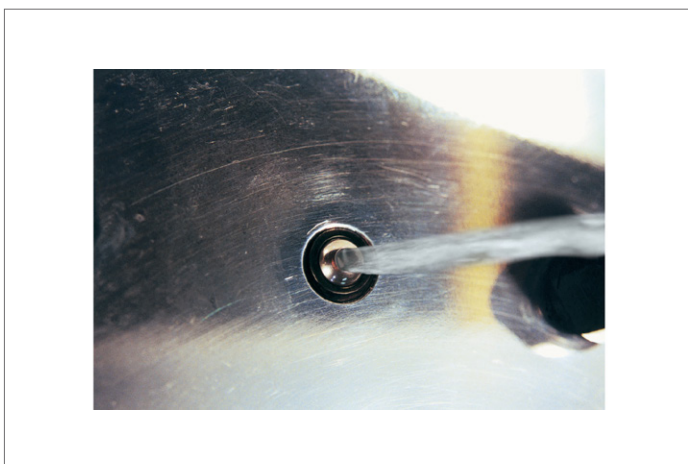
symbol α is an angle of adjustment either side of centre line.

Tips

Simply drill and ream hole (to H9) then press in the coolant nozzle until the body is flush.

The threaded hole in the top of the nozzle can be used for an extension tube (20020), a spray tip (20080 or 20082) or plugged with a set screw.

Order No.	d_1 tol. h9	d_2	l_1	l_2	α
20044.W6080	8	M 3,5x0,60	6	1.5	$\pm 35^\circ$
20044.W6100	10	M 4,0x0,70	7	2.0	$\pm 35^\circ$
20044.W6120	12	M 5,0x0,80	8	2.5	$\pm 35^\circ$
20044.W6140	14	M 6,0x1,00	10	3.0	$\pm 35^\circ$
20044.W6150	15	M 6,0x1,00	6	3.0	$\pm 35^\circ$
20044.W6160	16	M 8,0x1,25	10	3.0	$\pm 35^\circ$





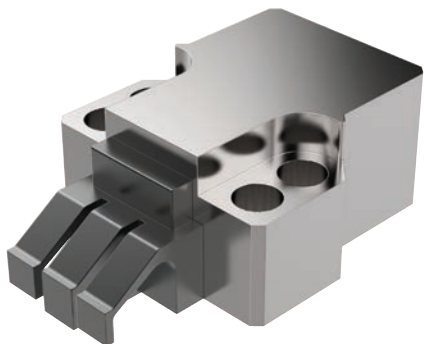
Horizontal Clamping

up to 2.2 tons

Clamping & Height Setting

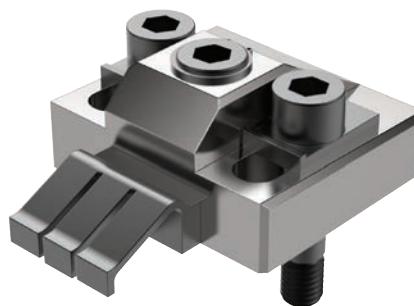


Clamping Torque



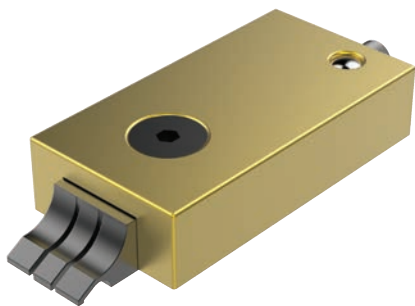
11040/CL2040

Clamping Torque N/m	Clamping Force N
50	23000
40	18000
30	12500
25	11500
20	9500



11070/CL2070

Clamping Torque N/m	Clamping Force N
60	16500
50	15000
40	12000
30	10000
25	8000
20	7000



11081/CL2081

Clamping Torque N/m	Clamping Force N
5	6600
4.5	5500
4	4900



10940/CL0030

Clamping Torque N/m	Clamping Force N
8.5	4000
8	3800
7	3400
6	3000
5	2500
4	2000

COOLANT NOZZLES

ov-W11040-A-T-W10940-A-T-horizontal-clamping-rmh - Updated - 13-10-2022



What Flow Rate of Coolant is Required?

Choose a nozzle with an orifice size that matches your pump's capacity.

Select an orifice size too big and coolant pressure will drop off, an orifice size too small and an inadequate amount of coolant will reach the tool tip and can result in damage.

Note: Flow rates are based on water at 20°. Actual results may vary with fluid type, extension length and aiming angle.

System pressure (bar)	0.35	0.7	1.4	2.0	2.8	4.1	5.5
Orifice diameter (mm)	Flow rate (litres/minute)						
1.02	0.32	0.45	0.64	0.77	0.91	1.18	1.41
1.57	0.86	1.14	1.68	2	2.32	2.82	3.32
2.18	1.64	2.32	3.27	3.86	4.55	5.46	6.82
2.79	2.91	4.09	6.36	7.27	8.18	10	11.37
4.06	6.36	9.09	12.73	15.91	18.18	21.82	25.46
5.59	11.37	16.82	23.64	30.46	35.46	42.28	48.19
System pressure (bar)	6.9	10.3	13.8	20.7	34.5	69.0	103.5
Orifice diameter (mm)	Flow rate (litres/minute)						
1.02	1.59	1.86	2.09	2.77	4	5.46	6.36
1.57	3.64	4.55	5.46	6.82	9.55	13.64	17.28
2.18	7.73	9.09	10.46	12.73	16.82	23.64	28.64
2.79	14.09	16.37	18.64	23.64	29.55	40.46	49.55
4.06	28.19	34.55	41.37	49.1	63.65	90.01	110.47
5.59	53.64	65.46	75.01	89.1	114.56	161.39	197.75

Calculating Coolant Velocity

To calculate the average coolant exit velocity (important in some grinding operations where it is often desirable to match or exceed the peripheral velocity of the wheel) refer to the formula below. Choose an orifice size that produces sufficient back pressure to achieve the desired velocity.

$$V = \frac{(17.11 \times 10^{-5}) \times F}{(d \times 10^{-3})^2}$$

Where;

V = Velocity in m/s

C = Constant of 17.11 x 10⁻⁵

F = Flow rate through orifice in litres/min (see table above)

d = Orifice diameter (mm) from product tables

Nozzle Extensions

Choose a nozzle extension that suits your application. Short projections are more compact and less likely to be knocked out of position by swarf or vibration. Longer extensions are easier to aim, produce a more streamline or laminar flow and shoot further.

A Word About Coolant Pumps

The most common coolant pump on CNC machine tools is a single stage centrifugal pump, normally designed to move high volumes of water at low pressure (typically 0.2 to 1.4 bar). Multi-stage centrifugal pumps are capable of higher pressures (typically 1.4 to 14 bar) while still producing high flow rates. Positive displacement pumps are used for very high pressure applications up to 140 bar and are generally used with small diameter orifices due to their lower flow rates.

