

— Sapphire screw-in nozzles

Sapphire screw-in nozzle 935

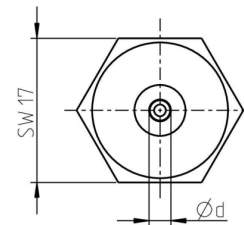
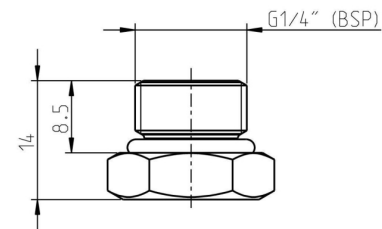
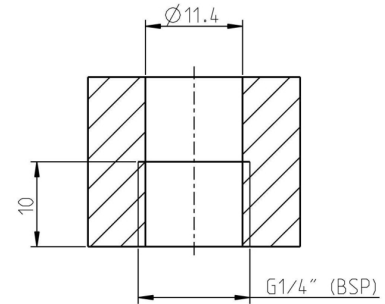
The Saphir screw-in nozzle type 935 for surface treatment is a rather exotic format. Due to its external shape, the nozzle can be installed in all customer-specific systems on the market. The nozzle can be used up to an operating pressure of 1000 bar. The heart of the nozzle, the nozzle stone, is completely manufactured at myt AG, thus ensuring consistent and high quality. All nozzle stones are checked for scratches, cracks and flow.

This product is compatible with the following brands or products:

- Type C
- Shape 2

Features and advantages

- Long service life
- Constant jet quality
- Highly focused water jet
- Point jet with high energy density
- Easy installation and removal
- Swiss quality



Applications

MVT AG is a Swiss supplier of high-quality and precise components and systems for the industrial sector.

- Aluminum
- Automotive and aviation industry
- Chemical industry
- Iron, steel and metal industry
- Energy industry
- Vehicle and aircraft parts
- Instrument panels
- Mechanical and apparatus engineering
- Transportation companies

ART. NO. (1)31233._ _

Specifications



Operating pressure (bar)
max.

1000



Operating temperature (°C)
max.

150

ART. NO.	NOZZLE SIZE in US Gal/ min at 40 psi	NOZZLE S Ød mm	PRESSURE in psi / bar							
			psi725	psi1450	psi2175	psi2900	psi3625	psi7250	psi10875	psi14500
			bar50	bar100	bar150	bar200	bar250	bar500	bar750	bar1000
			FLOW RATE in l/min							
31233.0100	0002	0.10	0.032	0.045	0.055	0.064	0.071	0.100	0.122	0.141
31233.0125	0003	0.125	0.050	0.071	0.086	0.100	0.111	0.157	0.191	0.220
31233.0150	0004	0.15	0.072	0.102	0.124	0.143	0.160	0.226	0.275	0.316
31233.0200	0008	0.20	0.128	0.181	0.221	0.255	0.285	0.401	0.489	0.563
31233.0250	0012	0.25	0.200	0.282	0.345	0.399	0.445	0.627	0.764	0.879
31233.0300	0018	0.30	0.288	0.407	0.497	0.574	0.641	0.903	1.101	1.266
31233.0350	0025	0.35	0.403	0.570	0.697	0.804	0.898	1.265	1.542	1.774
31233.0400	0033	0.40	0.527	0.744	0.910	1.050	1.173	1.652	2.015	2.317
31233.0450	0041	0.45	0.666	0.942	1.152	1.329	1.485	2.091	2.550	2.932
31233.0500	0051	0.50	0.823	1.162	1.422	1.641	1.833	2.581	3.148	3.620
31233.0550	0061	0.55	0.996	1.407	1.721	1.986	2.218	3.123	3.809	4.380
31233.0600	0073	0.60	1.185	1.674	2.048	2.363	2.640	3.717	4.533	5.213
31233.0650	0086	0.65	1.390	1.965	2.404	2.773	3.098	4.362	5.320	6.118
31233.0700	0099	0.70	1.613	2.278	2.788	3.217	3.593	5.059	6.170	7.095
31233.0750	0114	0.75	1.851	2.616	3.201	3.692	4.125	5.808	7.083	8.145
31233.0800	0131	0.80	2.136	3.018	3.694	4.261	4.760	6.702	8.174	9.399
31233.0850	0148	0.85	2.412	3.408	4.170	4.810	5.374	7.566	9.228	10.611
31233.0900	0166	0.90	2.704	3.820	4.675	5.393	6.024	8.483	10.345	11.896
31233.0950	0188	0.95	3.055	4.317	5.282	6.094	6.807	9.584	11.689	13.441
31233.1000	0214	1.00	3.479	4.916	6.015	6.939	7.752	10.915	13.311	15.307
31233.1100	0259	1.10	4.210	5.948	7.278	8.397	9.379	13.207	16.107	18.522
31233.1200	0308	1.20	5.010	7.079	8.662	9.993	11.162	15.717	19.168	22.042

ART. NO.	NOZZLE SIZE in US Gal/ min at 40 psi	NOZZLE S Ød mm	PRESSURE in psi / bar							
			psi725	psi1450	psi2175	psi2900	psi3625	psi7250	psi10875	psi14500
			bar50	bar100	bar150	bar200	bar250	bar500	bar750	bar1000
			FLOW RATE in l/min							
31233.1300	0362	1.30	5.880	8.308	10.165	11.728	13.100	18.446	22.496	25.869
31233.1400	0419	1.40	6.819	9.635	11.790	13.601	15.193	21.393	26.090	30.002
31233.1500	0481	1.50	7.828	11.060	13.534	15.614	17.441	24.558	29.950	34.441
31233.1600	0548	1.60	8.906	12.584	15.399	17.765	19.844	27.942	34.077	39.187
31233.1700	0619	1.70	10.054	14.206	17.384	20.055	22.402	31.544	38.470	44.238
31233.1800	0694	1.80	11.272	15.927	19.489	22.484	25.115	35.364	43.129	49.596
31233.1900	0773	1.90	12.559	17.746	21.714	25.051	27.983	39.402	48.054	55.259
31233.2000	0856	2.00	13.916	19.663	24.060	27.758	31.007	43.659	53.245	61.229
31233.2100	0944	2.10	15.343	21.678	26.526	30.603	34.185	48.134	58.703	67.505
31233.2200	1106	2.20	17.976	25.399	31.080	35.856	40.053	56.397	68.780	79.093
31233.2300	1209	2.30	19.648	27.761	33.970	39.190	43.777	61.641	75.175	86.447
31233.2400	1316	2.40	21.393	30.227	36.988	42.672	47.666	67.117	81.854	94.127
31233.2500	1428	2.50	23.213	32.799	40.134	46.302	51.721	72.827	88.817	102.135
31233.2600	1545	2.60	25.107	35.475	43.409	50.080	55.942	78.770	96.064	110.469
31233.2700	1666	2.70	27.076	38.257	46.813	54.007	60.328	84.945	103.596	119.130
31233.2800	1791	2.80	29.119	41.143	50.345	58.081	64.879	91.354	111.412	128.118
31233.2900	1922	2.90	31.236	44.134	54.005	62.304	69.596	97.996	119.512	137.432
31233.3000	2056	3.00	33.427	47.230	57.793	66.675	74.479	104.871	127.896	147.074

Instruction

When using high-pressure spray guns and lances manually, the recoil force to be absorbed in the longitudinal axis of the spraying device must not exceed 250N! If the recoil force exceeds 150N, a body support must be used!

< 150 N

< 250 N

> 250 N

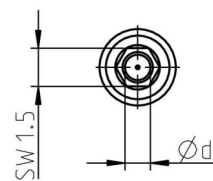
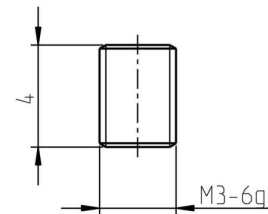
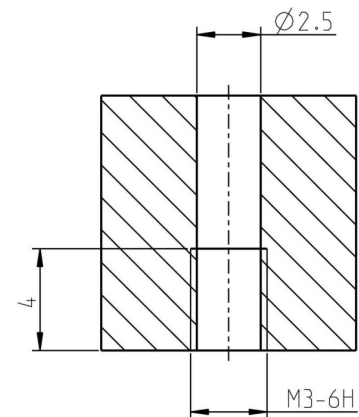
— Sapphire screw-in nozzles

Sapphire screw-in nozzle 030

The Saphir screw-in nozzle type 030 for surface treatment from mvt AG is characterized by its service life, efficiency and quality. This nozzle is primarily mounted on small cleaning bars and is used in industrial cleaning. The sapphire and the nozzle body are manufactured and machined in-house. The maximum operating pressure is 1000 bar. The nozzle is best sealed with Loctite or Teflon tape. The heart of the nozzle, the nozzle stone, is completely manufactured at mvt AG, thus ensuring consistent and high quality. All nozzle stones are checked for scratches, cracks and flow.

Features and advantages

- Long service life
- Constant jet quality
- Highly concentrated water jet
- Point jet with high energy density
- Easy installation and removal
- Swiss quality



Applications

MVT AG is a Swiss supplier of high-quality and precise components and systems for the industrial sector.

- Construction industry
- Iron, steel and metal industry
- Mechanical and apparatus engineering
- Cement and concrete industry
- Industrial cleaning
- Spray bars
- ART. NO. (1) - 31219._ _

Specifications



Operating pressure (bar)
max.

1000



Operating temperature (°C)
max.

150

ART. NO.	NOZZLE SIZE in US Gal/ min at 40 psi	NOZZLE S Ød mm	PRESSURE in psi / bar							
			psi725	psi1450	psi2175	psi2900	psi3625	psi7250	psi10875	psi14500
			bar50	bar100	bar150	bar200	bar250	bar500	bar750	bar1000
			FLOW RATE in l/min							
31219.0100	0002	0.10	0.032	0.045	0.055	0.064	0.071	0.100	0.122	0.141
31219.0125	0003	0.125	0.050	0.071	0.086	0.100	0.111	0.157	0.191	0.220
31219.0150	0004	0.15	0.072	0.102	0.124	0.143	0.160	0.226	0.275	0.316
31219.0175	0006	0.175	0.098	0.138	0.169	0.195	0.218	0.307	0.375	0.431
31219.0200	0008	0.20	0.128	0.181	0.221	0.255	0.285	0.401	0.489	0.563
31219.0250	0012	0.25	0.200	0.282	0.345	0.399	0.445	0.627	0.764	0.879
31219.0300	0018	0.30	0.288	0.407	0.497	0.574	0.641	0.903	1.101	1.266
31219.0350	0024	0.35	0.392	0.553	0.677	0.781	0.873	1.229	1.498	1.723
31219.0400	0031	0.40	0.512	0.723	0.884	1.020	1.140	1.605	1.957	2.251
31219.0450	0040	0.45	0.647	0.915	1.119	1.291	1.442	2.031	2.477	2.848
31219.0500	0049	0.50	0.799	1.129	1.382	1.594	1.781	2.507	3.058	3.517
31219.0550	0060	0.55	0.967	1.366	1.672	1.929	2.155	3.034	3.700	4.255
31219.0600	0071	0.60	1.151	1.626	1.990	2.296	2.564	3.611	4.404	5.064
31219.0650	0083	0.65	1.351	1.908	2.335	2.694	3.010	4.238	5.168	5.943
31219.0700	0096	0.70	1.567	2.213	2.708	3.125	3.490	4.915	5.994	6.892
31219.0750	0111	0.75	1.798	2.541	3.109	3.587	4.007	5.642	6.880	7.912
31219.0800	0126	0.80	2.046	2.891	3.538	4.081	4.559	6.419	7.828	9.002
31219.0850	0142	0.85	2.310	3.264	3.994	4.607	5.146	7.247	8.838	10.163
31219.0900	0159	0.90	2.590	3.659	4.477	5.165	5.770	8.124	9.908	11.394
31219.0950	0177	0.95	2.885	4.077	4.988	5.755	6.429	9.052	11.039	12.695
31219.1000	0197	1.00	3.197	4.517	5.527	6.377	7.123	10.030	12.232	14.066

Instruction

When using high-pressure spray guns and lances manually, the recoil force to be absorbed in the longitudinal axis of the spraying device must not exceed 250N! If the recoil force exceeds 150N, a body support must be used!

	< 150 N
	< 250 N
	> 250 N

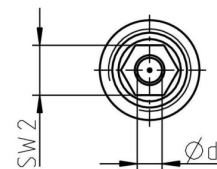
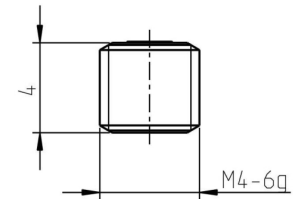
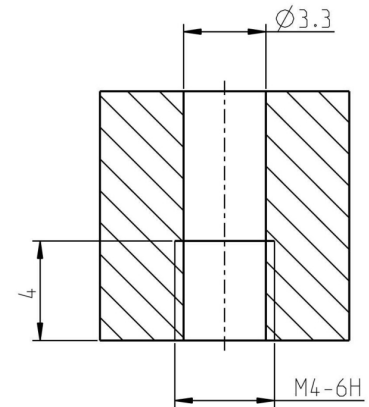
— Sapphire screw-in nozzles

Sapphire screw-in nozzle 040

The Saphir screw-in nozzle type 040 is mainly mounted on small cleaning bars and is used in industrial cleaning. The sapphire and the nozzle body are manufactured and machined in-house. The maximum operating pressure is 1000 bar. The nozzle is best sealed with Loctite or Teflon tape. The nozzle is characterized by its service life, efficiency and quality. The heart of the nozzle, the nozzle stone, is manufactured entirely at mvt AG, thus ensuring consistent and high quality. All nozzle stones are checked for scratches, cracks and flow.

Features and advantages

- Long service life
- Constant jet quality
- Highly concentrated water jet
- Point jet with high energy density
- Easy installation and removal
- Swiss quality



Applications

MVT AG is a Swiss supplier of high-quality and precise components and systems for the industrial sector.

- Construction industry
- Iron, steel and metal industry
- Mechanical and apparatus engineering
- Cement and concrete industry
- Industrial cleaning
- Spray bars

ART. NO. (1)

31216._ _

Specifications



Operating pressure (bar)
max.

1000



Operating temperature (°C)
max.

150

ART. NO.	NOZZLE SIZE in US Gal/ min at 40 psi	NOZZLE S Ød mm	PRESSURE in psi / bar							
			psi725	psi1450	psi2175	psi2900	psi3625	psi7250	psi10875	psi14500
			bar50	bar100	bar150	bar200	bar250	bar500	bar750	bar1000
			FLOW RATE in l/min							
31216.0100	0002	0.10	0.032	0.045	0.055	0.064	0.071	0.100	0.122	0.141
31216.0125	0003	0.125	0.050	0.071	0.086	0.100	0.111	0.157	0.191	0.220
31216.0150	0004	0.15	0.072	0.102	0.124	0.143	0.160	0.226	0.275	0.316
31216.0175	0006	0.175	0.098	0.138	0.169	0.195	0.218	0.307	0.375	0.431
31216.0200	0008	0.20	0.128	0.181	0.221	0.255	0.285	0.401	0.489	0.563
31216.0250	0012	0.25	0.200	0.282	0.345	0.399	0.445	0.627	0.764	0.879
31216.0300	0018	0.30	0.288	0.407	0.497	0.574	0.641	0.903	1.101	1.266
31216.0350	0024	0.35	0.392	0.553	0.677	0.781	0.873	1.229	1.498	1.723
31216.0400	0031	0.40	0.512	0.723	0.884	1.020	1.140	1.605	1.957	2.251
31216.0450	0040	0.45	0.647	0.915	1.119	1.291	1.442	2.031	2.477	2.848
31216.0500	0049	0.50	0.799	1.129	1.382	1.594	1.781	2.507	3.058	3.517
31216.0550	0060	0.55	0.967	1.366	1.672	1.929	2.155	3.034	3.700	4.255
31216.0600	0071	0.60	1.151	1.626	1.990	2.296	2.564	3.611	4.404	5.064
31216.0650	0083	0.65	1.351	1.908	2.335	2.694	3.010	4.238	5.168	5.943

ART. NO.	NOZZLE SIZE in US Gal/ min at 40 psi	NOZZLE S Ød mm	PRESSURE in psi / bar							
			psi725	psi1450	psi2175	psi2900	psi3625	psi7250	psi10875	psi14500
			bar50	bar100	bar150	bar200	bar250	bar500	bar750	bar1000
			FLOW RATE in l/min							
31216.0700	0096	0.70	1.567	2.213	2.708	3.125	3.490	4.915	5.994	6.892
31216.0750	0111	0.75	1.798	2.541	3.109	3.587	4.007	5.642	6.880	7.912
31216.0800	0126	0.80	2.046	2.891	3.538	4.081	4.559	6.419	7.828	9.002
31216.0850	0142	0.85	2.310	3.264	3.994	4.607	5.146	7.247	8.838	10.163
31216.0900	0159	0.90	2.590	3.659	4.477	5.165	5.770	8.124	9.908	11.394
31216.0950	0177	0.95	2.885	4.077	4.988	5.755	6.429	9.052	11.039	12.695
31216.1000	0197	1.00	3.197	4.517	5.527	6.377	7.123	10.030	12.232	14.066
31216.1100	0238	1.10	3.868	5.466	6.688	7.716	8.619	12.136	14.801	17.020
31216.1200	0283	1.20	4.604	6.505	7.959	9.183	10.257	14.443	17.614	20.255
31216.1300	0332	1.30	5.403	7.634	9.341	10.777	12.038	16.950	20.672	23.772
31216.1400	0386	1.40	6.266	8.854	10.834	12.498	13.961	19.658	23.975	27.570
31216.1500	0442	1.50	7.193	10.164	12.437	14.348	16.027	22.567	27.522	31.649
31216.1600	0503	1.60	8.184	11.564	14.150	16.325	18.235	25.676	31.314	36.009
31216.1700	0568	1.70	9.239	13.054	15.974	18.429	20.586	28.986	35.350	40.651
31216.1800	0637	1.80	10.358	14.635	17.909	20.661	23.079	32.497	39.632	45.574
31216.1900	0710	1.90	11.541	16.307	19.954	23.020	25.714	36.208	44.158	50.779

Instruction

When using high-pressure spray guns and lances manually, the recoil force to be absorbed in the longitudinal axis of the spraying device must not exceed 250N! If the recoil force exceeds 150N, a body support must be used!

	< 150 N
	< 250 N
	> 250 N

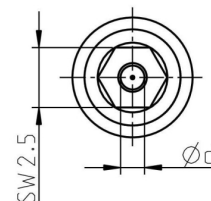
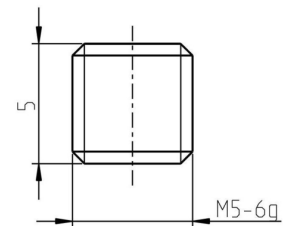
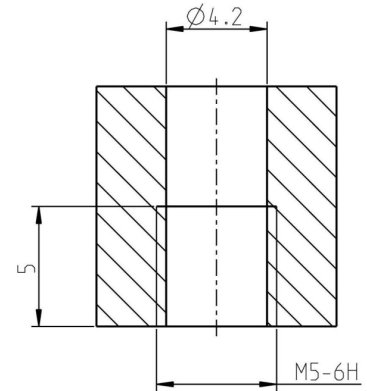
— Sapphire screw-in nozzles

Sapphire screw-in nozzle 050

The Saphir screw-in nozzle type 050 is mainly used on small cleaning bars and is used in industrial cleaning. The sapphire and the nozzle body are manufactured and machined in-house. The maximum operating pressure is 1000 bar and the nozzle is best sealed with Loctite or Teflon tape. The heart of the nozzle, the nozzle stone, is completely manufactured at mvt AG, thus ensuring consistent and high quality. All nozzle stones are checked for scratches, cracks and flow.

Features and advantages

- Long service life
- Constant jet quality
- Highly concentrated water jet
- Point jet with high energy density
- Easy installation and removal
- Swiss quality



Applications

MVT AG is a Swiss supplier of high-quality and precise components and systems for the industrial sector.

- Construction industry
- Iron, steel and metal industry
- Mechanical and apparatus engineering
- Cement and concrete industry
- Industrial cleaning
- Spray bars

ART. NO. (1)

31213._ _

Specifications



Operating pressure (bar)
max.

100



Operating temperature (°C)
max.

150

ART. NO.	NOZZLE SIZE in US Gal/ min at 40 psi	NOZZLE S Ød mm	PRESSURE in psi / bar							
			psi725	psi1450	psi2175	psi2900	psi3625	psi7250	psi10875	psi14500
			bar50	bar100	bar150	bar200	bar250	bar500	bar750	bar1000
			FLOW RATE in l/min							
31213.0100	0002	0.10	0.032	0.045	0.055	0.064	0.071	0.100	0.122	0.141
31213.0125	0003	0.125	0.050	0.071	0.086	0.100	0.111	0.157	0.191	0.220
31213.0150	0004	0.15	0.072	0.102	0.124	0.143	0.160	0.226	0.275	0.316
31213.0175	0006	0.175	0.098	0.138	0.169	0.195	0.218	0.307	0.375	0.431
31213.0200	0008	0.20	0.128	0.181	0.221	0.255	0.285	0.401	0.489	0.563
31213.0250	0012	0.25	0.200	0.282	0.345	0.399	0.445	0.627	0.764	0.879
31213.0300	0018	0.30	0.288	0.407	0.497	0.574	0.641	0.903	1.101	1.266
31213.0350	0024	0.35	0.392	0.553	0.677	0.781	0.873	1.229	1.498	1.723
31213.0400	0031	0.40	0.512	0.723	0.884	1.020	1.140	1.605	1.957	2.251
31213.0450	0040	0.45	0.647	0.915	1.119	1.291	1.442	2.031	2.477	2.848
31213.0500	0049	0.50	0.799	1.129	1.382	1.594	1.781	2.507	3.058	3.517
31213.0550	0060	0.55	0.967	1.366	1.672	1.929	2.155	3.034	3.700	4.255
31213.0600	0071	0.60	1.151	1.626	1.990	2.296	2.564	3.611	4.404	5.064
31213.0650	0083	0.65	1.351	1.908	2.335	2.694	3.010	4.238	5.168	5.943

ART. NO.	NOZZLE SIZE in US Gal/ min at 40 psi	NOZZLE S Ød mm	PRESSURE in psi / bar							
			psi725	psi1450	psi2175	psi2900	psi3625	psi7250	psi10875	psi14500
			bar50	bar100	bar150	bar200	bar250	bar500	bar750	bar1000
			FLOW RATE in l/min							
31213.0700	0096	0.70	1.567	2.213	2.708	3.125	3.490	4.915	5.994	6.892
31213.0750	0111	0.75	1.798	2.541	3.109	3.587	4.007	5.642	6.880	7.912
31213.0800	0126	0.80	2.046	2.891	3.538	4.081	4.559	6.419	7.828	9.002
31213.0850	0142	0.85	2.310	3.264	3.994	4.607	5.146	7.247	8.838	10.163
31213.0900	0159	0.90	2.590	3.659	4.477	5.165	5.770	8.124	9.908	11.394
31213.0950	0177	0.95	2.885	4.077	4.988	5.755	6.429	9.052	11.039	12.695
31213.1000	0197	1.00	3.197	4.517	5.527	6.377	7.123	10.030	12.232	14.066
31213.1100	0238	1.10	3.868	5.466	6.688	7.716	8.619	12.136	14.801	17.020
31213.1200	0283	1.20	4.604	6.505	7.959	9.183	10.257	14.443	17.614	20.255
31213.1300	0332	1.30	5.403	7.634	9.341	10.777	12.038	16.950	20.672	23.772
31213.1400	0386	1.40	6.266	8.854	10.834	12.498	13.961	19.658	23.975	27.570
31213.1500	0442	1.50	7.193	10.164	12.437	14.348	16.027	22.567	27.522	31.649
31213.1600	0503	1.60	8.184	11.564	14.150	16.325	18.235	25.676	31.314	36.009
31213.1700	0568	1.70	9.239	13.054	15.974	18.429	20.586	28.986	35.350	40.651
31213.1800	0637	1.80	10.358	14.635	17.909	20.661	23.079	32.497	39.632	45.574
31213.1900	0710	1.90	11.541	16.307	19.954	23.020	25.714	36.208	44.158	50.779

Instruction

When using high-pressure spray guns and lances manually, the recoil force to be absorbed in the longitudinal axis of the spraying device must not exceed 250N! If the recoil force exceeds 150N, a body support must be used!

	< 150 N
	< 250 N
	> 250 N

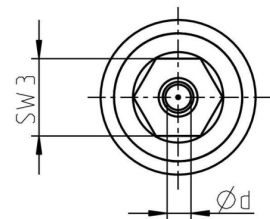
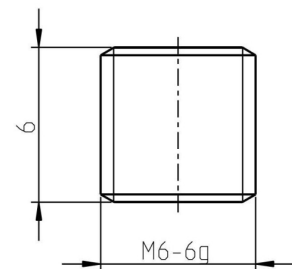
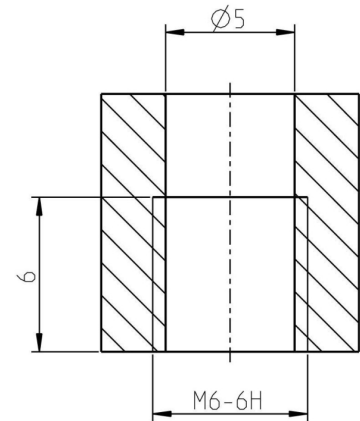
— Sapphire screw-in nozzles

Sapphire screw-in nozzle 060

The Saphir screw-in nozzle type 060 is mainly mounted on small cleaning bars and is used in industrial cleaning and demarking. The sapphire and the nozzle body are manufactured and machined in-house. The maximum operating pressure is 1000 bar. The nozzle is best sealed with Loctite or Teflon tape. The heart of the nozzle, the nozzle stone, is completely manufactured at mvt AG, thus ensuring consistent and high quality. All nozzle stones are checked for scratches, cracks and flow.

Features and advantages

- Long service life
- Constant jet quality
- Highly concentrated water jet
- Point jet with high energy density
- Easy installation and removal
- Swiss quality



Applications

MVT AG is a Swiss supplier of high-quality and precise components and systems for the industrial sector.

- Construction industry
- Iron, steel and metal industry
- Mechanical and apparatus engineering
- Cement and concrete industry
- Industrial cleaning
- Spray bars

ART. NO. (1)

31211._ _

Specifications



Operating pressure (bar)
max.

100



Operating temperature (°C)
max.

150

ART. NO.	NOZZLE SIZE in US Gal/ min at 40 psi	NOZZLE S Ød mm	PRESSURE in psi / bar							
			psi725	psi1450	psi2175	psi2900	psi3625	psi7250	psi10875	psi14500
			bar50	bar100	bar150	bar200	bar250	bar500	bar750	bar1000
			FLOW RATE in l/min							
31211.0100	0002	0.10	0.032	0.045	0.055	0.064	0.071	0.100	0.122	0.141
31211.0125	0003	0.125	0.050	0.071	0.086	0.100	0.111	0.157	0.191	0.220
31211.0150	0004	0.15	0.072	0.102	0.124	0.143	0.160	0.226	0.275	0.316
31211.0175	0006	0.175	0.098	0.138	0.169	0.195	0.218	0.307	0.375	0.431
31211.0200	0008	0.20	0.128	0.181	0.221	0.255	0.285	0.401	0.489	0.563
31211.0250	0012	0.25	0.200	0.282	0.345	0.399	0.445	0.627	0.764	0.879
31211.0300	0018	0.30	0.288	0.407	0.497	0.574	0.641	0.903	1.101	1.266
31211.0350	0024	0.35	0.392	0.553	0.677	0.781	0.873	1.229	1.498	1.723
31211.0400	0031	0.40	0.512	0.723	0.884	1.020	1.140	1.605	1.957	2.251
31211.0450	0040	0.45	0.647	0.915	1.119	1.291	1.442	2.031	2.477	2.848
31211.0500	0049	0.50	0.799	1.129	1.382	1.594	1.781	2.507	3.058	3.517
31211.0550	0060	0.55	0.967	1.366	1.672	1.929	2.155	3.034	3.700	4.255
31211.0600	0071	0.60	1.151	1.626	1.990	2.296	2.564	3.611	4.404	5.064
31211.0650	0083	0.65	1.351	1.908	2.335	2.694	3.010	4.238	5.168	5.943

ART. NO.	NOZZLE SIZE in US Gal/ min at 40 psi	NOZZLE S Ød mm	PRESSURE in psi / bar							
			psi725	psi1450	psi2175	psi2900	psi3625	psi7250	psi10875	psi14500
			bar50	bar100	bar150	bar200	bar250	bar500	bar750	bar1000
			FLOW RATE in l/min							
31211.0700	0096	0.70	1.567	2.213	2.708	3.125	3.490	4.915	5.994	6.892
31211.0750	0111	0.75	1.798	2.541	3.109	3.587	4.007	5.642	6.880	7.912
31211.0800	0126	0.80	2.046	2.891	3.538	4.081	4.559	6.419	7.828	9.002
31211.0850	0142	0.85	2.310	3.264	3.994	4.607	5.146	7.247	8.838	10.163
31211.0900	0159	0.90	2.590	3.659	4.477	5.165	5.770	8.124	9.908	11.394
31211.0950	0177	0.95	2.885	4.077	4.988	5.755	6.429	9.052	11.039	12.695
31211.1000	0197	1.00	3.197	4.517	5.527	6.377	7.123	10.030	12.232	14.066
31211.1100	0238	1.10	3.868	5.466	6.688	7.716	8.619	12.136	14.801	17.020
31211.1200	0283	1.20	4.604	6.505	7.959	9.183	10.257	14.443	17.614	20.255
31211.1300	0332	1.30	5.403	7.634	9.341	10.777	12.038	16.950	20.672	23.772
31211.1400	0386	1.40	6.266	8.854	10.834	12.498	13.961	19.658	23.975	27.570
31211.1500	0442	1.50	7.193	10.164	12.437	14.348	16.027	22.567	27.522	31.649
31211.1600	0503	1.60	8.184	11.564	14.150	16.325	18.235	25.676	31.314	36.009
31211.1700	0568	1.70	9.239	13.054	15.974	18.429	20.586	28.986	35.350	40.651
31211.1800	0637	1.80	10.358	14.635	17.909	20.661	23.079	32.497	39.632	45.574
31211.1900	0710	1.90	11.541	16.307	19.954	23.020	25.714	36.208	44.158	50.779
31211.2000	0787	2.00	12.788	18.068	22.109	25.507	28.493	40.119	48.928	56.265
31211.2200	0952	2.20	15.473	21.863	26.752	30.864	34.476	48.544	59.203	68.080
31211.2100	0867	2.10	14.099	19.920	24.376	28.122	31.413	44.232	53.943	62.032
31211.2300	1040	2.30	16.912	23.896	29.240	33.733	37.681	53.058	64.707	74.410
31211.2400	1133	2.40	18.414	26.019	31.838	36.730	41.029	57.772	70.456	81.021
31211.2500	1229	2.50	19.981	28.232	34.546	39.855	44.520	62.686	76.450	87.913
31211.2600	1329	2.60	21.611	30.536	37.365	43.107	48.152	67.802	82.688	95.087
31211.2700	1434	2.70	23.306	32.930	40.294	46.487	51.928	73.117	89.171	102.542
31211.2800	1542	2.80	25.064	35.414	43.335	49.994	55.845	78.634	95.899	110.278
31211.2900	1654	2.90	26.886	37.989	46.485	53.629	59.906	84.351	102.871	118.296
31211.3000	1770	3.00	28.773	40.654	49.746	57.391	64.108	90.268	110.088	126.595

Instruction

When using high-pressure spray guns and lances manually, the recoil force to be absorbed in the longitudinal axis of the spraying device must not exceed 250N! If the recoil force exceeds 150N, a body support must be used!

	< 150 N
	< 250 N
	> 250 N

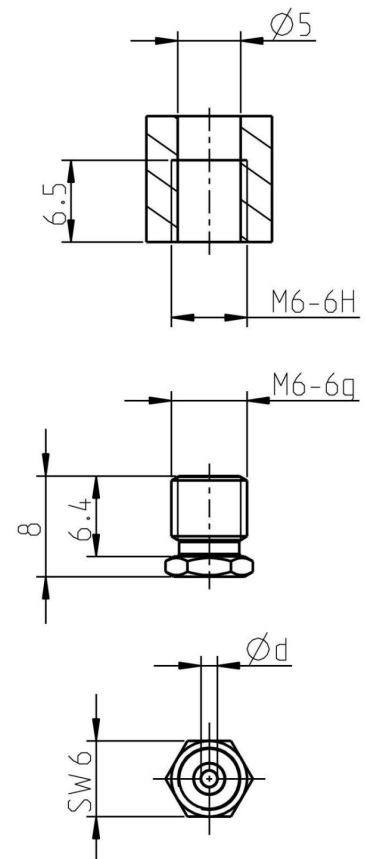
— Sapphire screw-in nozzles

Sapphire screw-in nozzle 078

The Saphir screw-in nozzle type 065 can be used with the optional steel Inox seal up to an operating pressure of 3000 bar. With the brass seal, an operating pressure of 1500 bar is permitted. This nozzle is used in industrial cleaning or in the demarcation industry. The sapphire and the nozzle body are manufactured and machined in-house. The nozzle is cone-sealing in conjunction with the seals and has a sealing angle of 44°. The heart of the nozzle, the nozzle stone, is completely manufactured at mvt AG, thus ensuring consistent and high quality. All nozzle stones are checked for scratches, cracks and flow.

Features and advantages

- Long service life
- Constant jet quality
- Highly concentrated water jet
- Point jet with high energy density
- Easy installation and removal
- Swiss quality



Applications

MVT AG is a Swiss supplier of high-quality and precise components and systems for the industrial sector.

- Construction industry
- Iron, steel and metal industry
- Mechanical and apparatus engineering
- Cement and concrete industry
- Industrial cleaning
- Spray bars

ART. NO. (1)

33018._ _

Specifications



**Operating pressure (bar)
max.**

1000



**Operating temperature (°C)
max.**

150

ART. NO.	NOZZLE SIZE in US Gal/ min at 40 psi	NOZZLE S Ød mm	PRESSURE in psi / bar							
			psi725	psi1450	psi2175	psi2900	psi3625	psi7250	psi10875	psi14500
			bar50	bar100	bar150	bar200	bar250	bar500	bar750	bar1000
			FLOW RATE in l/min							
31207.0250	0012	0.25	0.200	0.282	0.345	0.399	0.445	0.627	0.764	0.879
31207.0300	0018	0.30	0.288	0.407	0.497	0.574	0.641	0.903	1.101	1.266
31207.0350	0024	0.35	0.392	0.553	0.677	0.781	0.873	1.229	1.498	1.723
31207.0400	0031	0.40	0.512	0.723	0.884	1.020	1.140	1.605	1.957	2.251
31207.0450	0040	0.45	0.647	0.915	1.119	1.291	1.442	2.031	2.477	2.848
31207.0500	0049	0.50	0.799	1.129	1.382	1.594	1.781	2.507	3.058	3.517
31207.0550	0060	0.55	0.967	1.366	1.672	1.929	2.155	3.034	3.700	4.255
31207.0600	0071	0.60	1.151	1.626	1.990	2.296	2.564	3.611	4.404	5.064
31207.0650	0083	0.65	1.351	1.908	2.335	2.694	3.010	4.238	5.168	5.943
31207.0700	0096	0.70	1.567	2.213	2.708	3.125	3.490	4.915	5.994	6.892
31207.0750	0111	0.75	1.798	2.541	3.109	3.587	4.007	5.642	6.880	7.912
31207.0800	0126	0.80	2.046	2.891	3.538	4.081	4.559	6.419	7.828	9.002
31207.0850	0142	0.85	2.310	3.264	3.994	4.607	5.146	7.247	8.838	10.163
31207.0900	0159	0.90	2.590	3.659	4.477	5.165	5.770	8.124	9.908	11.394
31207.0950	0177	0.95	2.885	4.077	4.988	5.755	6.429	9.052	11.039	12.695
31207.1000	0197	1.00	3.197	4.517	5.527	6.377	7.123	10.030	12.232	14.066
31207.1100	0238	1.10	3.868	5.466	6.688	7.716	8.619	12.136	14.801	17.020
31207.1200	0283	1.20	4.604	6.505	7.959	9.183	10.257	14.443	17.614	20.255
31207.1300	0332	1.30	5.403	7.634	9.341	10.777	12.038	16.950	20.672	23.772
31207.1400	0386	1.40	6.266	8.854	10.834	12.498	13.961	19.658	23.975	27.570
31207.1500	0442	1.50	7.193	10.164	12.437	14.348	16.027	22.567	27.522	31.649

Instruction

When using high-pressure spray guns and lances manually, the recoil force to be absorbed in the longitudinal axis of the spraying device must not exceed 250N! If the recoil force exceeds 150N, a body support must be used!

	< 150 N
	< 250 N
	> 250 N

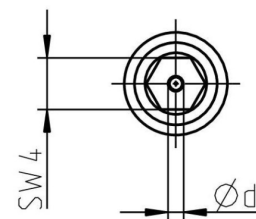
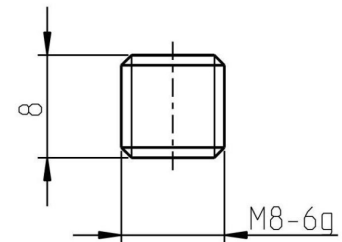
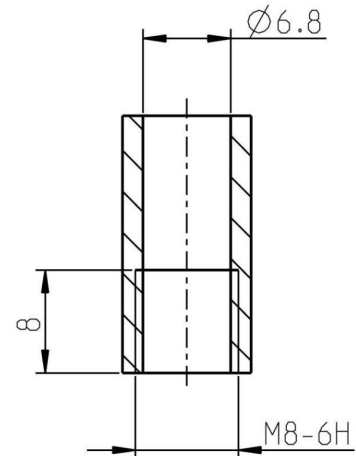
— Sapphire screw-in nozzles

Sapphire screw-in nozzle 080

The high-performance sapphire screw-in nozzle type 080 is designed for surface processing. The nozzle is characterized above all by its service life, efficiency and quality. This nozzle was designed primarily for spray bars on trucks and road marking equipment. The heart of the nozzle, the nozzle stone, is manufactured entirely at mvt AG, thus ensuring consistent and high quality. All nozzle stones are checked for scratches, cracks and flow.

Features and advantages

- Long service life
- Constant jet quality
- Highly concentrated water jet
- Point jet with high energy density
- Easy installation and removal
- Swiss quality



Applications

MVT AG is a Swiss supplier of high-quality and precise components and systems for the industrial sector.

- Construction industry
- Iron, steel and metal industry
- Mechanical and apparatus engineering
- Cement and concrete industry
- Industrial cleaning
- Spray bars

ART. NO. (1)

31204._ _

Specifications



Operating pressure (bar)
max.

1000



Operating temperature (°C)
max.

150

ART. NO.	NOZZLE SIZE in US Gal/ min at 40 psi	NOZZLES Ød mm	PRESSURE in psi / bar						
			psi725	psi1450	psi2900	psi4350	psi7250	psi10875	psi14500
			bar50	bar100	bar200	bar300	bar500	bar750	bar1000
			FLOW RATE in l/min						
31204.0100	0002	0.10	0.032	0.045	0.064	0.078	0.100	0.122	0.141
31204.0125	0003	0.125	0.050	0.071	0.100	0.122	0.157	0.191	0.220
31204.0150	0004	0.15	0.072	0.102	0.143	0.175	0.226	0.275	0.316
31204.0175	0006	0.175	0.098	0.138	0.195	0.239	0.307	0.375	0.431
31204.0200	0008	0.20	0.128	0.181	0.255	0.312	0.401	0.489	0.563
31204.0250	0012	0.25	0.200	0.282	0.399	0.487	0.627	0.764	0.879
31204.0300	0018	0.30	0.288	0.407	0.574	0.702	0.903	1.101	1.266
31204.0350	0024	0.35	0.392	0.553	0.781	0.955	1.229	1.498	1.723
31204.0400	0031	0.40	0.512	0.723	1.020	1.247	1.605	1.957	2.251
31204.0450	0040	0.45	0.647	0.915	1.291	1.579	2.031	2.477	2.848
31204.0500	0049	0.50	0.799	1.129	1.594	1.949	2.507	3.058	3.517
31204.0550	0060	0.55	0.967	1.366	1.929	2.358	3.034	3.700	4.255
31204.0600	0071	0.60	1.151	1.626	2.296	2.807	3.611	4.404	5.064
31204.0650	0083	0.65	1.351	1.908	2.694	3.294	4.238	5.168	5.943
31204.0700	0096	0.70	1.567	2.213	3.125	3.820	4.915	5.994	6.892

ART. NO.	NOZZLE SIZE in US Gal/ min at 40 psi	NOZZLES Ød mm	PRESSURE in psi / bar						
			psi725	psi1450	psi2900	psi4350	psi7250	psi10875	psi14500
			bar50	bar100	bar200	bar300	bar500	bar750	bar1000
			FLOW RATE in l/min						
31204.0750	0111	0.75	1.798	2.541	3.587	4.385	5.642	6.880	7.912
31204.0800	0126	0.80	2.046	2.891	4.081	4.990	6.419	7.828	9.002
31204.0850	0142	0.85	2.310	3.264	4.607	5.633	7.247	8.838	10.163
31204.0900	0159	0.90	2.590	3.659	5.165	6.315	8.124	9.908	11.394
31204.0950	0177	0.95	2.885	4.077	5.755	7.036	9.052	11.039	12.695
31204.1000	0197	1.00	3.197	4.517	6.377	7.796	10.030	12.232	14.066
31204.1100	0238	1.10	3.868	5.466	7.716	9.433	12.136	14.801	17.020
31204.1200	0283	1.20	4.604	6.505	9.183	11.226	14.443	17.614	20.255
31204.1300	0332	1.30	5.403	7.634	10.777	13.175	16.950	20.672	23.772
31204.1400	0386	1.40	6.266	8.854	12.498	15.280	19.658	23.975	27.570
31204.1500	0442	1.50	7.193	10.164	14.348	17.541	22.567	27.522	31.649
31204.1600	0503	1.60	8.184	11.564	16.325	19.958	25.676	31.314	36.009
31204.1700	0568	1.70	9.239	13.054	18.429	22.531	28.986	35.350	40.651
31204.1800	0637	1.80	10.358	14.635	20.661	25.259	32.497	39.632	45.574
31204.1900	0710	1.90	11.541	16.307	23.020	28.144	36.208	44.158	50.779
31204.2000	0787	2.00	12.788	18.068	25.507	31.185	40.119	48.928	56.265
31204.2100	0867	2.10	14.099	19.920	28.122	34.381	44.232	53.943	62.032
31204.2200	0952	2.20	15.473	21.863	30.864	37.733	48.544	59.203	68.080
31204.2300	1040	2.30	16.912	23.896	33.733	41.242	53.058	64.707	74.410
31204.2400	1133	2.40	18.414	26.019	36.730	44.906	57.772	70.456	81.021
31204.2500	1229	2.50	19.981	28.232	39.855	48.726	62.686	76.450	87.913
31204.2600	1329	2.60	21.611	30.536	43.107	52.702	67.802	82.688	95.087
31204.2700	1434	2.70	23.306	32.930	46.487	56.834	73.117	89.171	102.542
31204.2800	1542	2.80	25.064	35.414	49.994	61.122	78.634	95.899	110.278
31204.2900	1654	2.90	26.886	37.989	53.629	65.565	84.351	102.871	118.296
31204.3000	1770	3.00	28.773	40.654	57.391	70.165	90.268	110.088	126.595

Instruction

When using high-pressure spray guns and lances manually, the recoil force to be absorbed in the longitudinal axis of the spraying device must not exceed 250N! If the recoil force exceeds 150N, a body support must be used!

	< 150 N
	< 250 N
	> 250 N

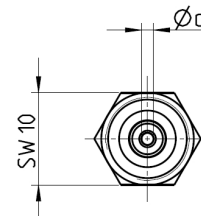
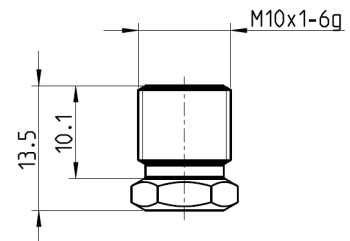
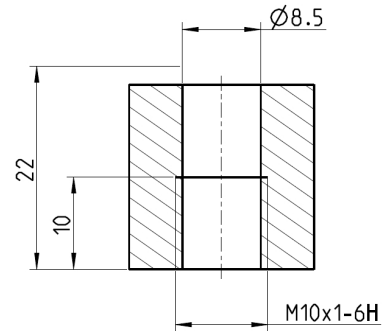
— Sapphire screw-in nozzles

Sapphire screw-in nozzle 084

The mvt sapphire screw-in nozzle type 084 for surface treatment is characterized by its long service life, efficiency and quality. Thanks to its external shape, the nozzle can be installed in all customer-specific systems on the market. The heart of the nozzle, the nozzle stone, is completely manufactured at mvt AG, thus ensuring consistent and high quality. All nozzle stones are checked for scratches, cracks and flow.

Features and advantages

- Long service life
- Constant jet quality
- Highly concentrated water jet
- Point jet with high energy density
- Easy installation and removal
- Swiss quality



Applications

MVT AG is a Swiss supplier of high-quality and precise components and systems for the industrial sector.

- Construction industry
- Iron, steel and metal industry
- Mechanical and apparatus engineering
- Cement and concrete industry
- Industrial cleaning
- Spray bars

ART. NO. (1)

31197._ _

Specifications



Operating pressure (bar)
max.

1000



Operating temperature (°C)
max.

150

ART. NO.	NOZZLE SIZE in US Gal/ min at 40 psi	NOZZLE S Ød mm	PRESSURE in psi / bar							
			psi725	psi1450	psi2175	psi2900	psi3625	psi7250	psi10875	psi14500
			bar50	bar100	bar150	bar200	bar250	bar500	bar750	bar1000
			FLOW RATE in l/min							
31197.0100	0002	0.10	0.032	0.045	0.055	0.064	0.071	0.100	0.122	0.141
31197.0125	0003	0.125	0.050	0.071	0.086	0.100	0.111	0.157	0.191	0.220
31197.0150	0004	0.15	0.072	0.102	0.124	0.143	0.160	0.226	0.275	0.316
31197.0175	0006	0.175	0.098	0.138	0.169	0.195	0.218	0.307	0.375	0.431
31197.0200	0008	0.20	0.128	0.181	0.221	0.255	0.285	0.401	0.489	0.563
31197.0250	0012	0.25	0.200	0.282	0.345	0.399	0.445	0.627	0.764	0.879
31197.0300	0018	0.30	0.288	0.407	0.497	0.574	0.641	0.903	1.101	1.266
31197.0350	0025	0.35	0.403	0.570	0.697	0.804	0.898	1.265	1.542	1.774
31197.0400	0033	0.40	0.527	0.744	0.910	1.050	1.173	1.652	2.015	2.317
31197.0450	0041	0.45	0.666	0.942	1.152	1.329	1.485	2.091	2.550	2.932
31197.0500	0051	0.50	0.823	1.162	1.422	1.641	1.833	2.581	3.148	3.620
31197.0550	0061	0.55	0.996	1.407	1.721	1.986	2.218	3.123	3.809	4.380
31197.0600	0073	0.60	1.185	1.674	2.048	2.363	2.640	3.717	4.533	5.213
31197.0650	0086	0.65	1.390	1.965	2.404	2.773	3.098	4.362	5.320	6.118
31197.0700	0099	0.70	1.613	2.278	2.788	3.217	3.593	5.059	6.170	7.095
31197.0750	0114	0.75	1.851	2.616	3.201	3.692	4.125	5.808	7.083	8.145
31197.0800	0131	0.80	2.136	3.018	3.694	4.261	4.760	6.702	8.174	9.399
31197.0850	0148	0.85	2.412	3.408	4.170	4.810	5.374	7.566	9.228	10.611
31197.0900	0166	0.90	2.704	3.820	4.675	5.393	6.024	8.483	10.345	11.896
31197.0950	0188	0.95	3.055	4.317	5.282	6.094	6.807	9.584	11.689	13.441
31197.1000	0208	1.00	3.385	4.783	5.853	6.752	7.542	10.620	12.952	14.894
31197.1100	0252	1.10	4.096	5.787	7.082	8.170	9.126	12.850	15.671	18.021

ART. NO.	NOZZLE SIZE in US Gal/ min at 40 psi	NOZZLE S Ød mm	PRESSURE in psi / bar							
			psi725	psi1450	psi2175	psi2900	psi3625	psi7250	psi10875	psi14500
			bar50	bar100	bar150	bar200	bar250	bar500	bar750	bar1000
			FLOW RATE in l/min							
31197.1200	0300	1.20	4.874	6.887	8.428	9.723	10.861	15.293	18.650	21.447
31197.1300	0352	1.30	5.721	8.083	9.891	11.411	12.746	17.947	21.888	25.170
31197.1400	0408	1.40	6.635	9.374	11.471	13.234	14.783	20.815	25.385	29.191
31197.1500	0468	1.50	7.616	10.761	13.168	15.192	16.970	23.895	29.141	33.510
31197.1600	0540	1.60	8.786	12.414	15.190	17.525	19.576	27.564	33.616	38.657
31197.1700	0610	1.70	9.919	14.014	17.149	19.784	22.100	31.118	37.950	43.640
31197.1800	0684	1.80	11.120	15.712	19.225	22.180	24.776	34.886	42.546	48.925
31197.1900	0762	1.90	12.390	17.506	21.421	24.713	27.605	38.870	47.404	54.512
31197.2000	0868	2.00	14.104	19.928	24.385	28.133	31.426	44.249	53.965	62.056
31197.2100	0982	2.10	15.965	22.557	27.602	31.844	35.571	50.086	61.083	70.242
31197.2200	1106	2.20	17.976	25.399	31.080	35.856	40.053	56.397	68.780	79.093
31197.2300	1209	2.30	19.648	27.761	33.970	39.190	43.777	61.641	75.175	86.447
31197.2400	1316	2.40	21.393	30.227	36.988	42.672	47.666	67.117	81.854	94.127
31197.2500	1428	2.50	23.213	32.799	40.134	46.302	51.721	72.827	88.817	102.135
31197.2600	1545	2.60	25.107	35.475	43.409	50.080	55.942	78.770	96.064	110.469
31197.2700	1666	2.70	27.076	38.257	46.813	54.007	60.328	84.945	103.596	119.130
31197.2800	1791	2.80	29.119	41.143	50.345	58.081	64.879	91.354	111.412	128.118
31197.2900	1922	2.90	31.236	44.134	54.005	62.304	69.596	97.996	119.512	137.432
31197.3000	2056	3.00	33.427	47.230	57.793	66.675	74.479	104.871	127.896	147.074

Instruction

When using high-pressure spray guns and lances manually, the recoil force to be absorbed in the longitudinal axis of the spraying device must not exceed 250N! If the recoil force exceeds 150N, a body support must be used!



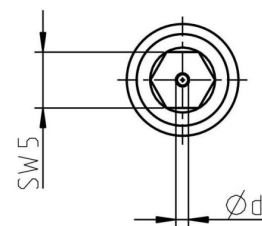
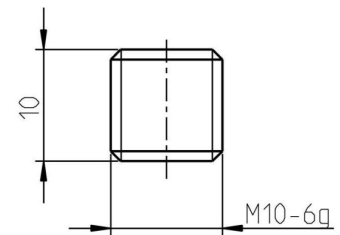
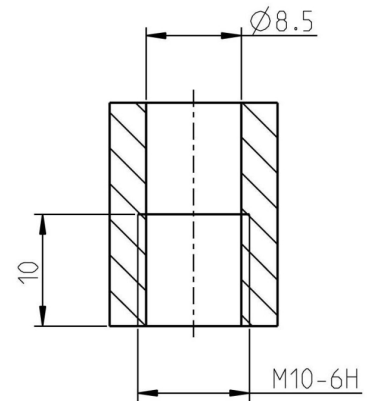
— Sapphire screw-in nozzles

Sapphire screw-in nozzle 100

The Saphir screw-in nozzle type 100 for surface treatment is characterized by its long service life, efficiency and quality. Thanks to its external shape, the nozzle can be installed in all customer-specific systems on the market. The heart of the nozzle, the nozzle stone, is completely manufactured at mvt AG, thus ensuring consistent and high quality. All nozzle stones are checked for scratches, cracks and flow.

Features and advantages

- Long service life
- Constant jet quality
- Highly concentrated water jet
- Point jet with high energy density
- Easy installation and removal
- Swiss quality



Applications

MVT AG is a Swiss supplier of high-quality and precise components and systems for the industrial sector.

- Construction industry
- Iron, steel and metal industry
- Mechanical and apparatus engineering
- Cement and concrete industry
- Industrial cleaning
- Spray bars

ART. NO. (1)

31193._ _

Specifications



Operating pressure (bar)
max.

1000



Operating temperature (°C)
max.

150

ART. NO.	NOZZLE SIZE in US Gal/ min at 40 psi	NOZZLE S Ød mm	PRESSURE in psi / bar							
			psi725	psi1450	psi2175	psi2900	psi3625	psi7250	psi10875	psi14500
			bar50	bar100	bar150	bar200	bar250	bar500	bar750	bar1000
			FLOW RATE in l/min							
31193.0600	0071	0.60	1.151	1.626	1.990	2.296	2.564	3.611	4.404	5.064
31193.0650	0083	0.65	1.351	1.908	2.335	2.694	3.010	4.238	5.168	5.943
31193.0700	0096	0.70	1.567	2.213	2.708	3.125	3.490	4.915	5.994	6.892
31193.0750	0111	0.75	1.798	2.541	3.109	3.587	4.007	5.642	6.880	7.912
31193.0800	0126	0.80	2.046	2.891	3.538	4.081	4.559	6.419	7.828	9.002
31193.0850	0142	0.85	2.310	3.264	3.994	4.607	5.146	7.247	8.838	10.163
31193.0900	0159	0.90	2.590	3.659	4.477	5.165	5.770	8.124	9.908	11.394
31193.0950	0177	0.95	2.885	4.077	4.988	5.755	6.429	9.052	11.039	12.695
31193.1000	0197	1.00	3.197	4.517	5.527	6.377	7.123	10.030	12.232	14.066
31193.1100	0238	1.10	3.868	5.466	6.688	7.716	8.619	12.136	14.801	17.020
31193.1200	0283	1.20	4.604	6.505	7.959	9.183	10.257	14.443	17.614	20.255
31193.1300	0332	1.30	5.403	7.634	9.341	10.777	12.038	16.950	20.672	23.772
31193.1400	0386	1.40	6.266	8.854	10.834	12.498	13.961	19.658	23.975	27.570
31193.1500	0442	1.50	7.193	10.164	12.437	14.348	16.027	22.567	27.522	31.649

ART. NO.	NOZZLE SIZE in US Gal/ min at 40 psi	NOZZLE S Ød mm	PRESSURE in psi / bar							
			psi725	psi1450	psi2175	psi2900	psi3625	psi7250	psi10875	psi14500
			bar50	bar100	bar150	bar200	bar250	bar500	bar750	bar1000
			FLOW RATE in l/min							
31193.1600	0503	1.60	8.184	11.564	14.150	16.325	18.235	25.676	31.314	36.009
31193.1700	0568	1.70	9.239	13.054	15.974	18.429	20.586	28.986	35.350	40.651
31193.1800	0637	1.80	10.358	14.635	17.909	20.661	23.079	32.497	39.632	45.574
31193.1900	0710	1.90	11.541	16.307	19.954	23.020	25.714	36.208	44.158	50.779
31193.2000	0787	2.00	12.788	18.068	22.109	25.507	28.493	40.119	48.928	56.265
31193.2100	0867	2.10	14.099	19.920	24.376	28.122	31.413	44.232	53.943	62.032
31193.2200	0952	2.20	15.473	21.863	26.752	30.864	34.476	48.544	59.203	68.080
31193.2300	1040	2.30	16.912	23.896	29.240	33.733	37.681	53.058	64.707	74.410
31193.2400	1133	2.40	18.414	26.019	31.838	36.730	41.029	57.772	70.456	81.021
31193.2500	1229	2.50	19.981	28.232	34.546	39.855	44.520	62.686	76.450	87.913
31193.2600	1329	2.60	21.611	30.536	37.365	43.107	48.152	67.802	82.688	95.087
31193.2700	1434	2.70	23.306	32.930	40.294	46.487	51.928	73.117	89.171	102.542
31193.2800	1542	2.80	25.064	35.414	43.335	49.994	55.845	78.634	95.899	110.278
31193.2900	1654	2.90	26.886	37.989	46.485	53.629	59.906	84.351	102.871	118.296
31193.3000	1770	3.00	28.773	40.654	49.746	57.391	64.108	90.268	110.088	126.595

Instruction

When using high-pressure spray guns and lances manually, the recoil force to be absorbed in the longitudinal axis of the spraying device must not exceed 250N! If the recoil force exceeds 150N, a body support must be used!

	< 150 N
	< 250 N
	> 250 N