

## WATER JET CUTTING

mvt AG offers a comprehensive, economically-priced range of diamond nozzles for the most varied of applications in the field of water jet cutting. All of our nozzles consist of a stainless steel nozzle body with a diamond orifice. Their special design gives them a high degree of stability and safety. Special designs and customer-specific solutions are available on request.

### PROPERTIES AND ADVANTAGES

- ▶ Long lifetime, approximately 20 times longer than sapphire nozzles
- ▶ Consistent jet quality
- ▶ Precision cutting accuracy
- ▶ Narrow cut width
- ▶ High cutting performance
- ▶ Longer lifetime of focusing tube
- ▶ Excellent price-to-performance ratio
- ▶ Swiss quality

### CUSTOMER BENEFITS

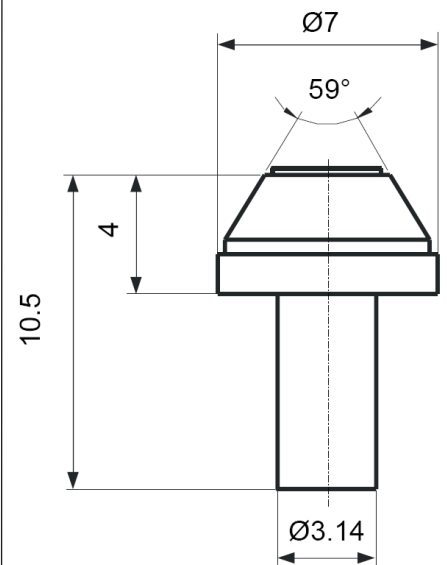
- ▶ High productivity
- ▶ Minimal downtime
- ▶ Cost-effective manufacturing
- ▶ High quality standard
- ▶ Expert advice
- ▶ Reliable service

### APPLICATIONS

- ▶ Clear water: paper, carton, corrugated cardboard, wood, plastics, foodstuffs, baked goods, frozen foods, meat, fish, composites, automotive parts such as carpets, door panels, dashboards, shock absorbers, instrument panels, parcel shelves, etc.
- ▶ Abrasive: metal, titanium, aluminium, stone, marble, granite, ceramics, reinforced concrete, plaster, rock wool, laminated glass, safety glass, bullet-proof glass, wood, plastics, composites, automotive and aircraft parts, etc

## Diamond nozzle Type 257D

Max. 4000 bar



## DESCRIPTION

- R = Pure waterjet cutting nozzles, aiming accuracy 100% tested  
 RX = Pure waterjet cutting nozzles, aiming accuracy not tested  
 P = Polymer cutting nozzles, aiming accuracy 100% tested  
 PX = Polymer cutting nozzles, aiming accuracy not tested  
 A = Abrasive cutting nozzles, aiming accuracy 100% tested  
 AX = Abrasive cutting nozzles, aiming accuracy not tested

## ON REQUEST THE AIMING ACCURACY OF NOZZLES CAN BE TESTED ACCORDING TO THE FOLLOWING CRITERIA

- The distance from the nozzle to the target mark is 100 mm.
- The target mark has a  $\varnothing$  of 0.50 mm in the case of nozzles with a  $\varnothing$  of up to 0.20 mm.
- The target mark has a  $\varnothing$  of 0.80 mm in the case of nozzles with a  $\varnothing$  of > 0.20 mm
- The target mark has a  $\varnothing$  of 1.10 mm in the case of nozzles with a  $\varnothing$  of > 0.30 mm
- The test pressure is 50 bar.
- 100% testing is only carried out if requested by the customer.

## PERFORMANCE DATA

| Water density at 20° C   | 2500 bar                     | Jet force | Jet speed |
|--------------------------|------------------------------|-----------|-----------|
|                          | kg/m <sup>3</sup><br>1085.68 |           |           |
| Nozzles $\varnothing$ mm | l/min                        | N         | m/sec     |
| 0.08                     | 0.139                        | 1.6       | 707       |
| 0.10                     | 0.217                        | 2.6       | 707       |
| 0.12                     | 0.313                        | 3.7       | 707       |
| 0.15                     | 0.489                        | 5.8       | 707       |
| 0.17                     | 0.628                        | 7.4       | 707       |
| 0.20                     | 0.870                        | 10.3      | 707       |
| 0.25                     | 1.359                        | 16.1      | 707       |
| 0.30                     | 1.957                        | 23.1      | 707       |
| 0.35                     | 2.664                        | 31.5      | 707       |
| 0.40                     | 3.479                        | 41.1      | 707       |
| 0.45                     | 4.403                        | 52.0      | 707       |

| Water density at 20° C   | 3000 bar                     | Jet force | Jet speed |
|--------------------------|------------------------------|-----------|-----------|
|                          | kg/m <sup>3</sup><br>1100.30 |           |           |
| Nozzles $\varnothing$ mm | l/min                        | N         | m/sec     |
| 0.08                     | 0.151                        | 2.0       | 775       |
| 0.10                     | 0.237                        | 3.1       | 775       |
| 0.12                     | 0.341                        | 4.4       | 775       |
| 0.15                     | 0.532                        | 6.9       | 775       |
| 0.17                     | 0.684                        | 8.9       | 775       |
| 0.20                     | 0.946                        | 12.3      | 775       |
| 0.25                     | 1.479                        | 19.1      | 775       |
| 0.30                     | 2.130                        | 27.6      | 775       |
| 0.35                     | 2.899                        | 37.5      | 775       |
| 0.40                     | 3.786                        | 49.0      | 775       |
| 0.45                     | 4.792                        | 62.0      | 775       |

| Water density at 20° C   | 3500 bar                     | Jet force | Jet speed |
|--------------------------|------------------------------|-----------|-----------|
|                          | kg/m <sup>3</sup><br>1114.28 |           |           |
| Nozzles $\varnothing$ mm | l/min                        | N         | m/sec     |
| 0.08                     | 0.163                        | 2.3       | 837       |
| 0.10                     | 0.254                        | 3.6       | 837       |
| 0.12                     | 0.366                        | 5.1       | 837       |
| 0.15                     | 0.571                        | 8.0       | 837       |
| 0.17                     | 0.734                        | 10.3      | 837       |
| 0.20                     | 1.016                        | 14.2      | 837       |
| 0.25                     | 1.587                        | 22.2      | 837       |
| 0.30                     | 2.286                        | 32.0      | 837       |
| 0.35                     | 3.111                        | 43.5      | 837       |
| 0.40                     | 4.064                        | 56.8      | 837       |
| 0.45                     | 5.143                        | 71.9      | 837       |

| Water density at 20° C   | 4000 bar                     | Jet force | Jet speed |
|--------------------------|------------------------------|-----------|-----------|
|                          | kg/m <sup>3</sup><br>1127.60 |           |           |
| Nozzles $\varnothing$ mm | l/min                        | N         | m/sec     |
| 0.08                     | 0.173                        | 2.6       | 894       |
| 0.10                     | 0.270                        | 4.0       | 894       |
| 0.12                     | 0.389                        | 5.8       | 894       |
| 0.15                     | 0.607                        | 9.1       | 894       |
| 0.17                     | 0.780                        | 11.7      | 894       |
| 0.20                     | 1.080                        | 16.1      | 894       |
| 0.25                     | 1.687                        | 25.2      | 894       |
| 0.30                     | 2.429                        | 36.3      | 894       |
| 0.35                     | 3.306                        | 49.4      | 894       |
| 0.40                     | 4.318                        | 64.6      | 894       |
| 0.45                     | 5.465                        | 81.7      | 894       |