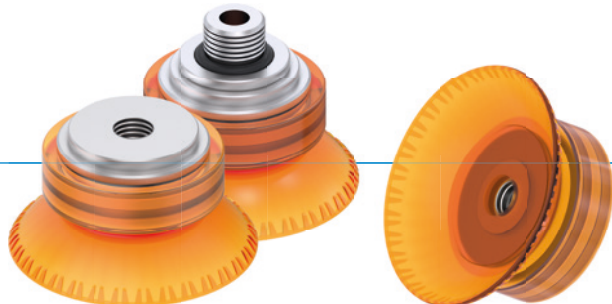


# BELL-SHAPED SUCTION CUP

## SERIES ZDF

### ► PRODUCT ADVANTAGES



#### ► Optimum geometry

- For thin, oily and bent metal plates and car body panels
- Friction structure on the underside of the suction cup ensures slip resistance between the workpiece and vacuum suction cup
- Highly durable and resistant thanks to the material characteristics of polyurethane

#### ► Application areas

- Automotive
- Glass
- Wood and composite materials

### ► PRODUCT KEY

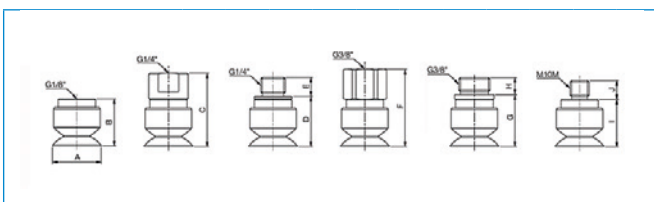
| ZDF    | 25       | - | PU       | - | 14F           |
|--------|----------|---|----------|---|---------------|
| Series | Diameter |   | Material |   | Fixing thread |

### ► MATERIAL CHARACTERISTICS

| Version | Material     | Color              | Operating temperature [°C] | Shore hardness |
|---------|--------------|--------------------|----------------------------|----------------|
| PU      | Polyurethane | Translucent orange | 0 ... +60                  | 60             |

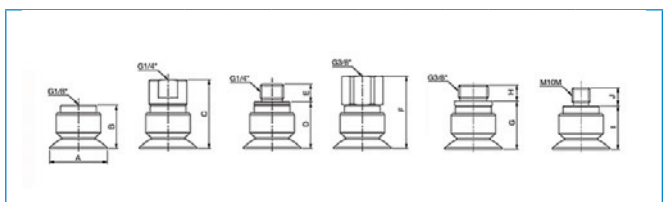
### ► DIMENSIONS

ZDF25



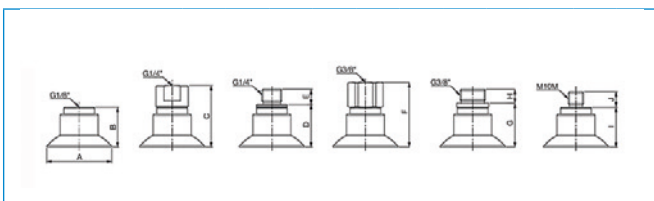
| Legend          | A  | B    | C    | D    | E  | F    | G    | H | I    | J  |
|-----------------|----|------|------|------|----|------|------|---|------|----|
| Dimensions [mm] | 26 | 25.2 | 39.2 | 26.8 | 10 | 41.2 | 27.7 | 9 | 25.2 | 10 |

ZDF30



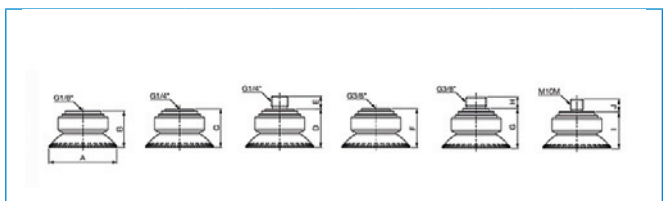
| Legend          | A    | B    | C    | D    | E  | F    | G    | H | I    | J  |
|-----------------|------|------|------|------|----|------|------|---|------|----|
| Dimensions [mm] | 32.2 | 24.3 | 38.3 | 25.9 | 10 | 40.3 | 26.8 | 9 | 24.3 | 10 |

ZDF40

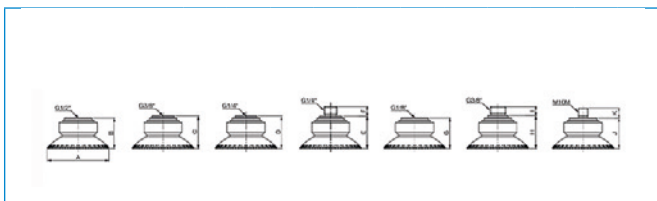


| Legend          | A    | B    | C    | D    | E  | F    | G    | H | I    | J  |
|-----------------|------|------|------|------|----|------|------|---|------|----|
| Dimensions [mm] | 42.5 | 26.1 | 40.1 | 27.7 | 10 | 42.1 | 28.6 | 9 | 26.1 | 10 |

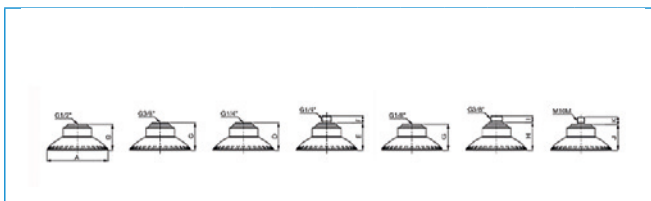
ZDF50



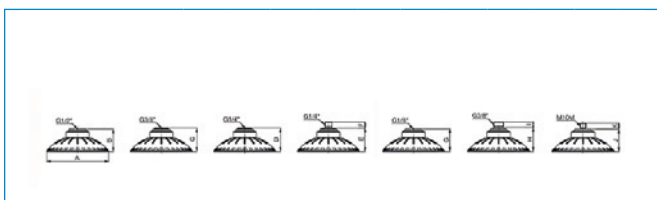
| Legend          | A  | B    | C    | D    | E  | F    | G  | H | I    | J  |
|-----------------|----|------|------|------|----|------|----|---|------|----|
| Dimensions [mm] | 53 | 28.5 | 30.2 | 30.1 | 10 | 30.5 | 31 | 9 | 25.8 | 10 |

**ZDF60****Legend**

|                        | A  | B    | C    | D    | E    | F  | G    | H  | I | J    | K  |
|------------------------|----|------|------|------|------|----|------|----|---|------|----|
| <b>Dimensions [mm]</b> | 63 | 31.5 | 33.5 | 33.5 | 33.1 | 10 | 31.5 | 34 | 9 | 31.5 | 10 |

**ZDF80****Legend**

|                        | A  | B    | C    | D    | E    | F  | G    | H    | I | J    | K  |
|------------------------|----|------|------|------|------|----|------|------|---|------|----|
| <b>Dimensions [mm]</b> | 83 | 35.1 | 37.1 | 37.1 | 36.7 | 10 | 35.1 | 37.6 | 9 | 35.1 | 10 |

**ZDF100****Legend**

|                        | A     | B    | C    | D    | E    | F  | G    | H    | I | J    | K  |
|------------------------|-------|------|------|------|------|----|------|------|---|------|----|
| <b>Dimensions [mm]</b> | 103.7 | 37.8 | 39.8 | 39.8 | 39.4 | 10 | 37.8 | 40.3 | 9 | 37.8 | 10 |

## ► TECHNICAL DATA

| Installation size                      | ZDF25 | ZDF30 | ZDF40 | ZDF50  | ZDF60  | ZDF80  | ZDF100 |
|----------------------------------------|-------|-------|-------|--------|--------|--------|--------|
| Lifting force parallel at -20 kPa [N]  | 6.87  | 9.81  | 23.54 | 34.34  | 42.18  | 70.63  | 120.66 |
| Lifting force parallel at -60 kPa [N]  | 18.64 | 27.47 | 46.11 | 90.25  | 135.38 | 181.49 | 276.64 |
| Lifting force parallel at -90 kPa [N]  | 28.45 | 37.28 | 69.65 | 181.49 | 240.35 | 264.87 | 388.48 |
| Lifting force vertical at -20 kPa [N]  | 13.73 | 17.66 | 26.49 | 40.22  | 54.94  | 84.37  | 123.61 |
| Lifting force vertical at -60 kPa [N]  | 29.43 | 43.16 | 60.82 | 99.08  | 134.4  | 207.97 | 302.15 |
| Lifting force vertical at -90 kPa [N]  | 40.22 | 55.92 | 81.42 | 137.34 | 186.39 | 287.43 | 409.08 |
| Lifting force parallel at -20 kPa [kg] | 0.700 | 1.000 | 2.400 | 3.500  | 4.300  | 7.200  | 12.300 |
| Lifting force parallel at -60 kPa [kg] | 1.900 | 2.800 | 4.700 | 9.200  | 13.800 | 18.500 | 28.200 |
| Lifting force parallel at -90 kPa [kg] | 2.900 | 3.800 | 7.100 | 18.500 | 24.500 | 27.000 | 39.600 |
| Lifting force vertical at -20 kPa [kg] | 1.400 | 1.800 | 2.700 | 4.100  | 5.600  | 8.600  | 12.600 |
| Lifting force vertical at -60 kPa [kg] | 3.000 | 4.400 | 6.200 | 10.100 | 13.700 | 21.200 | 30.800 |
| Lifting force vertical at -90 kPa [kg] | 4.100 | 5.700 | 8.300 | 14.000 | 19.000 | 29.300 | 41.700 |
| Volume [cm³]                           | 1.500 | 2.700 | 7.000 | 14.000 | 24.000 | 50.500 | 94.000 |

### ► Technical data

| Order no.     | Diameter [mm] | Material     | Fixing thread  |
|---------------|---------------|--------------|----------------|
| ZDF25-PU      | 25            | Polyurethane |                |
| ZDF25-PU-14F  | 25            | Polyurethane | G1/4" internal |
| ZDF25-PU-18F  | 25            | Polyurethane | G1/8" internal |
| ZDF25-PU-M10M | 25            | Polyurethane | M10 external   |
| ZDF30-PU      | 30            | Polyurethane |                |
| ZDF30-PU-14F  | 30            | Polyurethane | G1/4" internal |
| ZDF30-PU-14M  | 30            | Polyurethane | G1/4" external |
| ZDF30-PU-18F  | 30            | Polyurethane | G1/8" internal |
| ZDF30-PU-M10M | 30            | Polyurethane | M10 external   |
| ZDF40-PU      | 40            | Polyurethane |                |
| ZDF40-PU-14F  | 40            | Polyurethane | G1/4" internal |
| ZDF40-PU-14M  | 40            | Polyurethane | G1/4" external |
| ZDF40-PU-18F  | 40            | Polyurethane | G1/8" internal |
| ZDF40-PU-M10M | 40            | Polyurethane | M10 external   |
| ZDF50-PU      | 50            | Polyurethane |                |
| ZDF50-PU-14F  | 50            | Polyurethane | G1/4" internal |
| ZDF50-PU-14M  | 50            | Polyurethane | G1/4" external |
| ZDF50-PU-18F  | 50            | Polyurethane | G1/8" internal |
| ZDF50-PU-38F  | 50            | Polyurethane | G3/8" internal |

# BELL-SHAPED SUCTION CUP

## SERIES ZDF

| Order no.      | ► Technical data |              |                |
|----------------|------------------|--------------|----------------|
|                | Diameter [mm]    | Material     | Fixing thread  |
| ZDF50-PU-38M   | 50               | Polyurethane | G3/8" external |
| ZDF50-PU-M10M  | 50               | Polyurethane | M10 external   |
| ZDF60-PU       | 60               | Polyurethane |                |
| ZDF60-PU-12F   | 60               | Polyurethane | G1/2" internal |
| ZDF60-PU-14F   | 60               | Polyurethane | G1/4" internal |
| ZDF60-PU-14M   | 60               | Polyurethane | G1/4" external |
| ZDF60-PU-18F   | 60               | Polyurethane | G1/8" internal |
| ZDF60-PU-38F   | 60               | Polyurethane | G3/8" internal |
| ZDF60-PU-38M   | 60               | Polyurethane | G3/8" external |
| ZDF60-PU-M10M  | 60               | Polyurethane | M10 external   |
| ZDF80-PU       | 80               | Polyurethane |                |
| ZDF80-PU-12F   | 80               | Polyurethane | G1/2" internal |
| ZDF80-PU-14F   | 80               | Polyurethane | G1/4" internal |
| ZDF80-PU-14M   | 80               | Polyurethane | G1/4" external |
| ZDF80-PU-18F   | 80               | Polyurethane | G1/8" internal |
| ZDF80-PU-38F   | 80               | Polyurethane | G3/8" internal |
| ZDF80-PU-38M   | 80               | Polyurethane | G3/8" external |
| ZDF80-PU-M10M  | 80               | Polyurethane | M10 external   |
| ZDF100-PU      | 100              | Polyurethane |                |
| ZDF100-PU-12F  | 100              | Polyurethane | G1/2" internal |
| ZDF100-PU-14M  | 100              | Polyurethane | G1/4" external |
| ZDF100-PU-18F  | 100              | Polyurethane | G1/8" internal |
| ZDF100-PU-38F  | 100              | Polyurethane | G3/8" internal |
| ZDF100-PU-38M  | 100              | Polyurethane | G3/8" external |
| ZDF100-PU-M10M | 100              | Polyurethane | M10 external   |