Company Profile

BAPUJI INDUSTRIES, today is a trusted name in the field of industrial spray nozzles and accessories. With an experience of 10 years, our facilities have been developed to manufacture different types of nozzles used in various fields. Our fields of specialization include manufacturing nozzles for surface treatment, chemical industry, steelmaking industry, power engineering and environmental technology, air conditioning, fire protection, paper industry, food and beverages, machine tools and agriculture.

We attribute our success to our motivated and skilled workforce who can accomplish job orders of varying magnitudes and complexities. We are proud to have esteemed customers who have entrusted their faith in us over the years.

The aim of our organization is customer satisfaction which is achieved through following objectives:

- Commitment to quality
- Prompt response
- Technological solutions
- In time delivery
- Service After sales

Our challenge is to meet the widely ranging delivery demands of an equally diverse customer base coupled with constant upgradation of production equipment and techniques to keep pace with new market trends and applications.

About Quality System

Internal Inspection report is made for every lot and the same is given to the customer along with material TC report. Third party inspection is carried out as per customer requirements. All our measuring instruments are calibrated periodically. Our managerial staff believes in continuous improvement in the existing processes.
## Nozzle Selection Guide - by Application & spray pattern

<table>
<thead>
<tr>
<th>Category of Nozzles</th>
<th>Applications</th>
<th>Spray Patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FLAT</strong></td>
<td>Degreasing, Roll Cooling, Rinsing, High pressure Cleaning,</td>
<td></td>
</tr>
<tr>
<td><strong>FULL CONE</strong></td>
<td>Surface spraying, washing &amp; cooling of flue gases, scrubbing</td>
<td></td>
</tr>
<tr>
<td><strong>OIL BURNER SPRAY NOZZLE</strong></td>
<td>LDO firing in kilns of cement, sponge, Iron plants &amp; Dust suppression.</td>
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<tr>
<td><strong>HOLLOW CONE</strong></td>
<td>Fugitive dust suppression Desuperheating, essentially, small droplet size</td>
<td></td>
</tr>
<tr>
<td><strong>OIL BURNER SPRAY NOZZLE</strong></td>
<td>LDO firing in kilns of cement, sponge, Iron plants &amp; Dust suppression.</td>
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<tr>
<td><strong>TANK CLEANING</strong></td>
<td>Cleaning of inside surface of barrels &amp; tanks.</td>
<td></td>
</tr>
<tr>
<td><strong>FINE ATOMIZING NOZZLE</strong></td>
<td>Gas cooling, conditioning or humidifying applications, for improving the chemical reaction by increased contact surface</td>
<td></td>
</tr>
<tr>
<td><strong>AIR ATOMIZING NOZZLE</strong></td>
<td>Coating, Atomizing of viscous liquids, Gas cooling, conditioning or humidifying, Chemical process engineering.</td>
<td></td>
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</table>
Spray nozzles are designed to perform under various spraying conditions. The following characteristics should be used when considering which nozzle to select.

- Spray Pattern
- Flow Rate & Pressure
- Spray Angle
- Droplet Size
- Material Selection

Spray Pattern

Spray nozzles selection follows primarily from its application. Spray nozzles are designed to perform under many different spraying conditions. Selecting a spray based on the pattern and other spray characteristics needed generally yields good results.

Each spray pattern is described further with applications to assist you in your nozzle selection.

Capacity

Nozzle capacity (flow rate) varies with spraying pressure. It also depends on the specific gravity of the liquid. Thus, for lower specific gravity, the flow rate is larger than for liquid with a higher specific gravity at the same pressure.

Spray Angle

Spray angle varies with the distance from where it is going to spray. Liquids with more viscosity gives narrow spray angle and vice-a-versa.

Droplet Size

In many applications like physical or chemical processes, which involve sprays, greatly depend on droplet size distribution. Significant factor influencing droplet size include nozzle type, capacity, spraying pressure and spray pattern.

Material Selection

Following types of materials are generally used.
1. Brass
2. Stainless steel (SS 304, SS 316, SS 316 L & all grades)
3. Hardened SS
4. Carbide Material
   - Silicon Carbide
   - Tungsten Carbide
5. Hastelloy B
6. Hastelloy C
7. Plastic Material
   - PVDF PP, PVC, PTFE/Teflon
8. Ceramic
9. Titanium
**Flat Spray Nozzle**

As the name implies, the spray pattern appears as a flat sheet of liquid. The flow geometry provides uniform spray pattern & high impact, for various spray angles to satisfy various applications.

**Characteristic**: They are non-clogging and can operate through pressure fluctuations.

**DESIGN**: One piece construction, Non clogging type.

**APPLICATION**: Surface Treatment, Roll Cooling, Degreasing and Rinsing, Lubricating, Industrial washing machines, etc.

**FLOW RATE**: 1 LPM to 280 LPM

**PRESSURE**: 2.0 Kg/cm² or specified

**SPRAY ANGLE**: 15° to 120°

**END CONNECTION**: 1/8” to 2” BSP/BSPT/NPT (m/f)

**M.O.C.**: S.S. 316, 304, Brass, PVC, PP, Teflon, PVDF, etc.

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**Flood Spray Nozzles**

Wide angle flat with sharply defined spray pattern. It is available with a threaded connection and, for the sizes from 1/4” to 3/4” as a nozzle assure a wide coverage and an even distribution.

**Characteristic**: Flat nozzle work on the impact principle, with high efficiency and low plugging risks.

**DESIGN**: One Piece Construction, Non Clogging type

Accurately Machined to Provide very high impact

**APPLICATION**: Gravel Washing, Rinsing, Control of Foam, etc.

**FLOW RATE**: 2 LPM to 250 LPM

**PRESSURE**: 2.0 Kg/cm² or specified

**SPRAY ANGLE**: 90° to 140°

**END CONNECTION**: 1/4” to 3/4” BSP/BSPT/NPT (m/f)

**M.O.C.**: S.S. 316, 304, Brass, PVC, PP, PVDF, Teflon.

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**Flat Spray Nozzle With Dove Tail Design**

Uniform parabolic distribution of liquid. Headers, equipped with these nozzles, show a highly uniform total distribution of liquids, even at different installation heights and centers.

Nozzle position fixed by self-setting dove-tail Flat preset at 15° and 5° pipe axis.

**Characteristic**: Uniform flat spray with knife-like cutting edge, accurate alignment.

**Applications**:
- Roll Cooling
- Descaling
- High pressure cleaning etc.

**Range**:

**Spray angle**: 15° to 120°

**Flow rate**: 1 To 100 LPM

**Pressure**: 2.0 Kg/cm² or specified

**Connection**: Mounted With Aid Of Dovetail Fixing Dovetail Nipple & Retaining Nut.

**Standard Accessories**: welding nipple and screwed nut.
Solid Spray Nozzle (Injector Type)

Compact stream with a defined length owing to optimum flow geometry.
Flow conditions are not affected by turbulence. A concentrated with high impact force is achieved. This is used for powerful punctiform impact, wherever concentrated power is vital.

Characteristic: A high efficiency and economical performance is obtained.

<table>
<thead>
<tr>
<th>DESIGN</th>
<th>APPLICATION</th>
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</thead>
<tbody>
<tr>
<td>One Piece Construction.</td>
<td>For High pressure cleaning systems, Cutting and separating.</td>
</tr>
</tbody>
</table>

FLOW RATE: 5 LPM to 250 LPM
PRESSURE: 2.0 Kg/cm² or specified
SPRAY ANGLE: Only 0°
END CONNECTION: 1/8” to 1” BSP/BSPT /NPT
M.O.C.: S.S. 316, 304, Brass, PVC, PVDF, PP, Teflon

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<tr>
<th>G</th>
<th>L1</th>
<th>L2</th>
<th>HEX</th>
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<tr>
<td>¼</td>
<td>18</td>
<td>8</td>
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<td>22</td>
<td>10</td>
<td>14 mm</td>
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<td>⅜</td>
<td>25</td>
<td>10.5</td>
<td>17 mm</td>
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<td>⅝</td>
<td>32</td>
<td>13</td>
<td>22 mm</td>
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<td>42</td>
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<td>27 mm</td>
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<tr>
<td>1</td>
<td>56</td>
<td>18</td>
<td>36 mm</td>
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Spiral Full Cone Spray Nozzle

The helix spiral full cone nozzles combine small nozzle sizes with wide flow openings.

Characteristic: The absence of any internal parts make these nozzles non-clogging.

<table>
<thead>
<tr>
<th>DESIGN</th>
<th>APPLICATION</th>
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</thead>
<tbody>
<tr>
<td>One Piece Construction, Non Clogging type.</td>
<td>Gas washing, Cooling Towers, Fire fighting systems.</td>
</tr>
</tbody>
</table>

FLOW RATE: 5 LPM to 3410 LPM
PRESSURE: 2.0 Kg/cm² or specified
SPRAY ANGLE: 60° to 180°
END CONNECTION: 1/4” to 4” BSP/BSPT /NPT
M.O.C.: S.S. 316, 304, Brass, PVDF, PVC, PP, Teflon

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<thead>
<tr>
<th>G</th>
<th>L1</th>
<th>L2</th>
<th>HEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>¼</td>
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<td>10</td>
<td>16 mm</td>
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<tr>
<td>½</td>
<td>46</td>
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<tr>
<td>⅜</td>
<td>64</td>
<td>13</td>
<td>22 mm</td>
</tr>
<tr>
<td>½</td>
<td>80</td>
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<td>27 mm</td>
</tr>
<tr>
<td>⅞</td>
<td>95</td>
<td>18</td>
<td>36 mm</td>
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Solid Cone Spray Nozzle (Full Cone)

Full cone nozzle form complete spray coverage in a round or square shaped area. It provides an uniform spray distribution of medium to large size drops resulting from their vane design which features large flow passage and control characteristics. This is extensively used style in industry.

Characteristic: Internal vane design features large flow passage and fine control.

<table>
<thead>
<tr>
<th>DESIGN</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Removable Vane.</td>
<td>Round Pattern, Square Pattern, Oval Solid Cone, Wall Mounted type.</td>
</tr>
</tbody>
</table>

APPLICATION: Surface spraying, washing & cooling of flue gasses to remove fly ash, cooling condenser, Scrubbing, Foam Breaking,

FLOW RATE: 1 LPM to 8000 LPM
PRESSURE: 2.0 Kg/cm² or specified
SPRAY ANGLE: 30° to 120°
END CONNECTION: 1/8” to 4” BSPT /NPT or BSP-Flanged
M.O.C.: S.S. 316, 304, Brass, PVC, PVDF, PP, Teflon

<table>
<thead>
<tr>
<th>DESIGN</th>
<th>M.O.C.</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Piece Construction.</td>
<td>S.S. 316, 304, Brass, PVC, PVDF, PP, Teflon</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>FLOW RATE</th>
<th>PRESSURE</th>
<th>SPRAY ANGLE</th>
<th>END CONNECTION</th>
</tr>
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<tbody>
<tr>
<td>: 1 LPM to 8000LPM</td>
<td>: 2.0 Kg/cm² or specified</td>
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</table>

<table>
<thead>
<tr>
<th>DESIGN</th>
<th>APPLICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round Pattern, Square Pattern, Oval Solid Cone, Wall Mounted type.</td>
<td>Surface spraying, washing &amp; cooling of flue gasses to remove fly ash, cooling condenser, Scrubbing, Foam Breaking,</td>
</tr>
</tbody>
</table>

Table: Solid Cone Spray Nozzle (Full Cone)
**Spiral Hollow Cone**

This flow pattern is essentially a circular ring of liquid. Hollow cone nozzles are best for application requiring good atomization of liquids at lower pressures or where quick heat transfer is needed. These nozzles also feature large and unobstructed flow passage which provide a relatively high resistance to clogging.

There are following types of hollow cone nozzles.

1) Tangential Entry  2) Inline (Axial) Entry  3) Spiral Hollowcone.

**Characteristic**
- high resistance to clogging.

**APPLICATION**
- Cooling & Washing of gas

**FLOW RATE**
- 1 LPM to 530 LPM

**PRESSURE**
- 2.0 Kg/cm² or specified

**SPRAY ANGLE**
- 60°, 80°, 90°, 120°, 130°

**END CONNECTION**
- 1/4” to 3/4” BSP/BSPT /NPT (m/f)

**M.O.C.**
- S.S. 316, 304, Brass, PVC, PVDF, PP, Teflon

<table>
<thead>
<tr>
<th>Diameter (mm)</th>
<th>L1</th>
<th>L2</th>
<th>Sq</th>
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<td>20 mm</td>
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<tr>
<td>3/8</td>
<td>35</td>
<td>10</td>
<td>20 mm</td>
</tr>
<tr>
<td>1/2</td>
<td>45</td>
<td>13</td>
<td>25.4 mm</td>
</tr>
<tr>
<td>3/4</td>
<td>57</td>
<td>15</td>
<td>30 mm</td>
</tr>
</tbody>
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**Inline Entry Hollow Cone**

Hollow cone spray pattern with uniform distribution of finely atomized droplets. Smaller droplets in spray pattern than full cone nozzles of the same capacity at similar pressures.

**Characteristic**
- One piece in-line body with removable orifice tip.

**DESIGN**
- Two Piece Construction

**APPLICATION**
- Gas Cooling & Cleaning spray Drying, desuperheating, Water Cooling, fugitive dust suppression.

**FLOW RATE**
- 1 LPM to 40 LPM

**PRESSURE**
- 2.0 Kg/cm² or specified

**SPRAY ANGLE**
- 45° to 120°

**END CONNECTION**
- 1/4” to 1/2” BSP/BSPT /NPT (m/f)

**M.O.C.**
- S.S. 316, 304, Brass, PVC, PVDF, PP, Teflon

<table>
<thead>
<tr>
<th>Diameter (mm)</th>
<th>L1</th>
<th>HEX</th>
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<tbody>
<tr>
<td>1/4</td>
<td>30</td>
<td>14 mm</td>
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<tr>
<td>3/8</td>
<td>32</td>
<td>17 mm</td>
</tr>
<tr>
<td>1/2</td>
<td>37</td>
<td>22 mm</td>
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**Spiral Hollow Cone**

A hollow cone spray pattern with large flow rates and small drop sizes. These nozzles have an anti clog design that can be easily inspected, cleaned and serviced.

**Characteristic**
- High resistance to clogging.

**DESIGN**
- One Piece Construction, No Internal Parts.

**APPLICATION**
- Dust Suppression, Gas washing, Humidification.

**FLOW RATE**
- 10 LPM to 3000 LPM

**PRESSURE**
- 2.0 Kg/cm² or specified

**SPRAY ANGLE**
- 60° to 180°

**END CONNECTION**
- 1/4” to 4” BSP/BSPT /NPT

**M.O.C.**
- S.S. 316, 304, Brass, PVC, PVDF, PP, Teflon

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<th>Diameter (mm)</th>
<th>L1</th>
<th>L2</th>
<th>HEX</th>
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<tbody>
<tr>
<td>1/4</td>
<td>40</td>
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<td>16 mm</td>
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<tr>
<td>3/8</td>
<td>48</td>
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<tr>
<td>1/2</td>
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<td>3/4</td>
<td>80</td>
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<td>27 mm</td>
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<td>1</td>
<td>95</td>
<td>18</td>
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</table>
There are good reasons for you to look for more efficient ways to clean tanks and vessels in your plant. The main disadvantages like high cost of labour intensive washing methods, tighter sanitary requirements, disposal costs of contaminated cleaning solutions, safety requirements at work for cleaning solvents can be overcome by using this type of nozzle.

**Applications:**

- Cleaning of inside surface of barrels and tanks.
- To circulate liquids in chemical processes to accelerate the reactions.

**Range:**

- Spray Angle: 200° to 360°
- Flow rate (lpm) at 2 bar Pressure: 24 to 147
- Connection: 3/4” NPT
- M.O.C.: S.S. 316, 304

* Stationary type nozzle is also available.

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**Eductors**

Eductors have a unique venturi design which enables smaller pumps to circulate large volumes of tank solution. The eductor will circulate four to five gallons of solution for each gallon pumped. Eductors are used for mixing chemicals, suspending solids, adjusting pH, "sweeping" debris or sludge toward a filter intake and many other useful applications.

**Characteristic:** It’s unique venturi design ensures proper mixing of tank solution.

**Eductor Typical Applications:**

- Plating Tanks
- Phosphating Tanks
- Fertilizer Tanks
- Pulp Tanks
- Sludge Tanks
- Paint Booths
- Anodizing Tanks
- Cooling Towers
- Decorative Fountains

M.O.C.: S.S. 316, CS, Brass, PVC, PVDF.

Size from 1/4” to 3” N.P.T. (BSPT Models also available)
**Multiple Full cone Nozzle**

Multiple spray nozzles, consisting of seven finely atomizing hollow cone nozzles, provide a fog-like full cone pattern with relatively high flow volumes. The overlapping hollow cone nozzles produce a 130° full cone spray pattern of very fine droplets that cannot be achieved by a single orifice spray nozzle of the same flow rate size. The resulting increased droplet surface area of the atomized liquid provides greater efficiency in gas treatment and cooling application ideal for reaction towers which do not use packings.

**Characteristic:**
- This type of nozzle gives fine atomization with the aid of several hollow cones spraying into one another.

**Applications:**
- Cooling of gaseous and solid material
- In desuperheaters
- Chlorine precipitation
- For improving the chemical reaction by means of enlarging the contact surface

**Range:**
- Spray Angle: 70°, 120°, 130°
- Flow rate (lpm) at 2 bar Pressure: 6 to 70
- Connection: 3/4", 1" BSP
- M.O.C.: S.S. 316, 304, Brass, PVC

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**Fog Spray Nozzle**

This type of nozzle throws a fogging spray of small-sized drops, they produce a dense full cone type pattern with large flow rates.

**Characteristic:**
- This non clogging nozzle gives fine atomization with the aid of several flat spraying into one another.

**Applications:**
- Fire protection
- Dust Control
- Aerating
- Chemical Processing

**Range:**
- Spray Angle: 70°, 90°
- Flow rate (lpm) at 2 bar Pressure: 16 to 225
- Connection: 3/4", 1", 1¼" BSPT(F) OR NPT
- M.O.C.: S.S. 316, 304, Brass, PVC

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**Multiple Full Nozzles**

The nozzle assembly consists of a nozzle body and seven removable atomizing spray caps. Each cap has an internal core which is easily removed for cleaning or replacement. The nozzle provides large flow capacities with relatively small drops.

**Characteristic:**
- With the aid of multiple fine full cone nozzles it gives large full cone with small droplets.

**Application:**
- Gas scrubbing
- Gas cooling
- Dust control
- Tank rinsing
- Humidifying applications

**Range:**
- Flow rate (lpm) at 2 bar Pressure: 1 to 215
- Connection: 1" BSP (F)
- M.O.C.: S.S. 316, 304, Brass, PVC
**Air Atomizing Spray Nozzle**

Air atomizing nozzle utilizes a collision of air and liquid to provide an atomized spray. Various nozzle designs are to comply with specific application.

**Characteristic** : Air mist nozzles can operate for less cost than high pressure hydraulic spray nozzles.

**Applications** :
- Coating
- Gas cooling, conditioning or humidifying.
- Atomizing of viscous liquids.
- Chemical process engineering.

**Range** :
- Spray Angle : 15°, 20°, 25°, 30°, 45°, 60°, 90°, 120°
- Flow rate (lpm) at 2 bar Pressure : 0.05 to 6
- Connection : 1/8” to 1/4” BSPT/NPT OR BSP.
- M.O.C. : Brass, SS316,304

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**Spray Nozzle For continuous Casters (Square Pattern)**

The share of continuous casters in world steel production is steadily increasing. For production of perfect steel grades, cooling of the red hot strand, especially in the secondary cooling areas, is of vital importance.

**Characteristic** : Full cone spray pattern with uniform distribution throughout the approximately square cone.

**Advantages** :
This nozzle gives uniform distribution of cooling water, fine sprays with narrow drop spectrums and quick removing of cooling water from the strand surface which are considered vital for obtaining a perfect steel quality.

**Range** :
- Spray Angle : 60°, 75°, 90°, 120°
- Flow rate (lpm) at 2 bar Pressure : 1 to 40
- Connection : depends on site conditions.(m/f)
- M.O.C. : Brass, SS316,304

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**Full Cone Nozzles For continuous Casters (Round Pattern)**

Full cone nozzles produce a full cone spray pattern, with a uniform liquid distribution. The special design of the internal vane ensures a good resistance to clogging. Typical application continuous casting machines.

**Characteristic** : These nozzles produce a uniform liquid distribution.

**Range** :
- Spray Angle : 30° to 90°
- Flow rate (lpm) at 2.8 bar Pressure : 1 LPM to 12 LPM
- Connection : 1/4”, 3/8” BSP (f)
- M.O.C. : Brass, SS316,304
**Oil Burner Spray Nozzle**

Oil burner nozzles are available in fullcone & hollowcone spray pattern. Micro-finish of Tip & Disc seats permitting flow only through the slots of the disc, plus extremely close manufacturing tolerances, ensure accurate capacity control. These nozzles are accomplished with filter in order to provide highly efficient in depth filtration with one piece construction extra fine filter microns are supplied as standard on all small capacity nozzles.

**Applications:**
- LDO firing in kilns of cement, sponge, iron plants & Dust suppression.

**Range:**
- Spray Angle: 45°, 60°, 80°,
- Flow rate (lpm) at 2 bar Pressure:
  - 0.75, 1.5, 1.75, 2.25, 2.5, 3, 3.5, 4, 5, 6, 6.5
  - 10.5, 12.5, 15.5, 19.5, 24, 30, 40, 50,
  - 55, 60, 70, 80, 100 GPH.
- Connection: UNF 9/16”
- M.O.C.: SS, 304

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**Clip On Spray Nozzle**

Designed to ensure easy installation and minimal maintenance downtime, the Clip On nozzle assembly simply snaps onto an existing header. The assembly is affixed to the header by a spring-grade stainless steel clamp, which fits 3/4”, 1-1/4”, 1-1/2” or 2” pipes. The nozzle tip is installed aligned and secured by manually twisting the cap which allow the spray pattern to be directed very precisely at the surface being cleaned.

**Characteristic:** Retaining cap holds the tip in position, even when the nozzle is jarred or vibrated.

**Applications:**
- Cleaning problems, phosphating, degreasing, rinsing in surface treatment techniques. Ball joint, omnidirectional swivelling range of 30°
- Simple quick assembling. Easy adjusting and cleaning.

**Range:**
- Flow rate (lpm) at 2 bar Pressure: 1 LPM to 40 LPM.
- Connection: 1/4”, 3/8” BSP

**Dimensions:**

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<tr>
<td>3/8</td>
<td>58 mm</td>
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**Air Wiping Nozzles**

Multi channel flat spray nozzles have been specially designed to attenuate noise, to obtain an intensive, precise blowing power, to minimise cost by reducing air consumption.

**Characteristic:** The air stream is discharged through 16 precision orifices that ensure uniform distribution and spray pattern integrity.

**Applications:**
- For transporting, blowing off, cleaning blowing-out cooling. On stamping machines, for die-casting, compression moulding blowing-off emulsions etc. Adjustable cover affords selection of 16 different orifices.

**Range:**
- Connection: 1/4” BSP (m/f)
- M.O.C.: Aluminium, SS, PP

**Dimensions:**

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<th>G</th>
<th>L1</th>
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<tr>
<td>1/2 M</td>
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</tr>
<tr>
<td>1/4 F</td>
<td>12 mm</td>
<td>86 mm</td>
<td>20 mm</td>
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Accessories

- Swivel Ball Joint
- Dovetail Assembly
- Connector
- Clip on Assembly to suit 25, 32, and 40 NB pipe in PP material to mount 1/4” and 3/8”

Spray Nozzles have three basic functions:

- Meter flow
- Distribution of liquid
- Break up a liquid stream into droplets

The process of choosing a nozzle includes specifying:

a) Its flow-rate-versus-pressure characteristics.
b) The size of the droplets that will be produced.
c) How the droplets will be distributed after leaving the nozzle.
d) The Nozzle connection to the feed pipe.
e) The Material of construction.

Troubleshooting basics

The following are some of the things to look for when a system is not performing as intended:

Nozzle Wear of Corrosion

- May cause excessive flowrate due to enlarged passage
- May increase droplet size
- Degrades spray Pattern

Nozzle Clogging

- Low flowrates
- Poor Spray Pattern

Inadequate Pipe Size

- Excessive pipe pressure losses leading to low nozzle pressures
- High velocities in headers that disrupt fluid entering the nozzle

Incorrect Nozzle Location

- Poor gas/liquid contact in scrubbers and quenchers
- Poor area coverage

Incorrect Nozzle For Application

- Drop size too small or too large
- Incorrect pattern type

Careful system design and selection of the proper Nozzle will minimize spray problems.
SPRAY COVERAGE & DATA SHEET

This table lists the theoretical coverage of spray patterns as calculated from the included spray and the distance from the nozzle orifice. These values are based on the assumption that the spray angle remains same throughout entire spray distance. In actual practice, the tabulated spray angle does not hold for long spray distance.

<table>
<thead>
<tr>
<th>Spray Width</th>
<th>Spray Height</th>
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<tbody>
<tr>
<td>5°</td>
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Service Life

The service life of nozzle is dependent on various circumstances such as spray application, service conditions, the quality of the liquid to be sprayed. According to the material used, service life of nozzles can considerably differ.

This short survey gives you an idea about proper nozzle selection.

** Special Material and Connection on request
<table>
<thead>
<tr>
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<th>TO OBTAIN</th>
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<th>TO OBTAIN</th>
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</tbody>
</table>
RANGE OF INDUSTRIAL SPRAY NOZZLES & ACCESSORIES

All Flow Rates (V-LPM) and Spray Angle (°) @ 2.0 Kg/cm² except otherwise specified.

FLAT
- V: 0.5 to 280
  - Ø: .15° to 120°
  - High Precision
- V: 4 to 500
  - Ø: .15° to 120°
  - Large Capacity
- V: 1 to 200
  - Ø: .15° to 120°
  - Dove Tail Nozzle
- V: 0.5 to 280
  - Ø: .90° to 140°
  - Flood Spray Wide Angle
- V: 0.3 to 80
  - Ø: .15° to 120°
  - Nozzle Tip

FULL CONE
- V: 1 to 1500
  - Ø: .45° to 120°
  - Axial Full Cone
- V: 1 to 5000
  - Ø: .40° to 120°
  - Square Pattern
- V: 10 to 4000
  - Ø: .60° to 180°
  - Spiral Full Cone
- V: 1 to 100
  - Ø: .60° to 120°
  - Vaneless Full Cone
- V: 1 to 6000
  - Ø: .45° to 120°
  - Tangential Entry Full Cone

HOLLOW CONE
- V: 1 to 850
  - Ø: .60° to 130°
  - Tangential Entry
- V: 10 to 250
  - Ø: .60° to 180°
  - Spiral Hollow Cone
- V: 0.2 to 80
  - Ø: .45° to 120°
  - Inline Entry (male Connection)
- V: 40 to 800
  - Ø: .60° to 90°
  - Ramp Bottom
- V: 0.5 to 50
  - Ø: .30° to 90°
  - Burner Nozzle

SOLID
- V: 0.8 to 250
  - Ø: 0°
  - Needle
- V: 6 to 87
  - Ø: .45° to 90°
  - Medium capacity Full cone
- V: 0.05 to 5.0
  - Ø: .15° to 25°
  - Full cone Narrow Angle
- V: 0.5 to 6
  - Ø: .45° to 180°
  - Air Atomizing
- V: 0.02 to 6
  - Ø: .60° to 120°
  - Air Atomizing Full Cone

TANK CLEANING
- V: 16 to 40
  - Ø: 120° to 240°
  - Self Rotating
- V: 40 to 140
  - Ø: 180° to 360°
  - Barrel/Tank Cleaning
- V: 80 to 200
  - Ø: 180° to 360°
  - Turbo Tank Cleaning
- V: 150 to 1120
  - Ø: 180° to 360°
  - Gyro
- V: 12 to 280
  - Ø: 120° to 240°
  - Stationary Type

SPECIAL
- V: 2 to 80
  - Ø: 90° to 130°
  - Multipal Full Cone
- V: 16 to 225
  - Ø: 65° to 90°
  - Fog Spray nozzle
- V: 15 m³/hr.
  - Air Wiping
- V: 3 to 40
  - Ø: 20° to 120°
  - Blow off Nozzle
- V: 40 to 240
  - Ø: 70° to 130°
  - Multiple Full cone

ACCESSORIES
- Dove Tail Nipple & Nut
- Nipple & Nut
- Ball Joint
- Clamps

Special Design, End Connections & Materials On Request

Office :- R-446, T.T.C.,Industrial Area, MIDC Rabale,Navi Mumbai - 400 701.
E-mail : sales@bapujiindustries.com  Website : www.spraynozzle.co.in