SPRAYTECS
SPRAY TECHNOLOGIES

GENERAL CATALOG

COOLING – FIRE FIGHTING
GAS TREATMENT – CHEMICAL INJECTION
FOAM CONTROL – DUST CONTROL –
WASHING – COATING

SPRAYTECS TECHNOLOGIES Ltd. has a long experience in design and production in little and large scale of several mechanical components as spray nozzles and spraying systems for industrial application.

Today we supply our international Customers with a complete range of products for processes such as spraying and fine atomizing of liquids, smoke washing, evaporative cooling of gases, industrial tank washing, intensive cleaning processes, liquid spray dry, fire-fighting and many others.

Our world class product range, made of the finest materials and manufactured exclusively in our factories in United Kingdom and in Italy with top quality machines and tools, is distributed in the main world markets with the help of a network of country Agents & Distributors to give at our customers a professional support, fast deliveries and after-sale service at any time.

Our passion for finding the best solution for our customers on the technical as well as economic way of thinking, is a guarantee for the long-term continuity of the business relationship, based on the good working and longevity of the **SPRAYTECS TECHNOLOGIES Ltd.** products once installed in your system.

Our Production Quality System meets the rules and recommendations of more than one International known Standards, in order to meet the needs related to different products and markets.

We ever do all our best to help the improvement in your manufacturing results.

FULL CONE NOZZLES DESCRIPTION

STANDARD FLOW RATE

Applications:

Chemical injection
Dust control
Firefighing protection
Metal cooling

Shape of spray	Angles	Flow Rates range	Threads range
	45° - 120°	1.2 - 29.4 Lpm	1/8” - 1/2”

These Full Cone nozzles have a wide range of applications, an efficient internal project and a compact dimension, a fact that may be important in your design needs. The shape of the spray is a solid cone. Drop sizes are small and medium.

HIGH FLOW RATE

Applications:

Chemical injection
Dust control
Firefighing protection

Shape of spray	Angles	Flow Rates range	Threads range
	60° - 120°	30 - 11,300 Lpm	3/4” - 10”

These Full Cone nozzles have bigger dimensions for medium or high flow rates. Drop sizes are medium-large or large.

COMPACT

Applications:

Firefighing protection
Washing systems
Humidifier
Gas cooling and tempera-ture control

Shape of spray	Angles	Flow Rates range	Threads range
	90° - 120°	30.5 - 780 Lpm	3/4” - 3”

The compact full cone SPRAYTECS nozzles are designed with the intent to allow medium-high flows with very small dimensions. The resistance of these full cone nozzle swirles to deformation under the effect of high temperatures and their affordable price are the reasons for the great success among SPRAYTECS customers.

FULL CONE SQUARE SPRAY

Applications:

Washing air/gas
Cooling and hardening
Dust control
Fire suppression

Shape of spray	Angles	Flow Rates range	Threads range
	60° - 120°	8.9 - 4,200 Lpm	1/4” - 6”

These SPRAYTECS full cone nozzles contain an inlet swirler designed to produce a square shape spray. The obtained result is a uniform spray, ideal to cover totally the targeted surfaces and with maximum efficiency in terms of minimal amount of fluid used for the purpose.

TANGENTIALS

Applications:

Intense industrial washing processes
Chemical Industry
Food industry

Shape of spray	Angles	Flow Rates range	Threads range
	60° - 120°	3.9 - 122 Lpm	1/4” - 1”

These full cone tangential nozzles are characterized by the absence of internal swirl.
Therefore they have a large free passage and are virtually not subject to the risk of clogging due to solids in fluids sprayed.
They are tangential, because they have a jet that is orthogonal to the axis of the fluid inlet the nozzle.

SPRAY TIPS

Applications:

Washing and cooling of nets, cans, barrels, cases, vegetables, fruits, meat products, fish paste
Cooling of heat exchangers
Seasoning, unfreezing, extraction
Foam breaking
CFC-free or ethane-free washing
Etching
Steel cooling on continuous-casting machine

Shape of spray	Angles	Flow Rates range	Threads range
	60° - 120°	2.3– 6.3 Lpm	3/8”

These Spray tips have a quick-connection to reduce the maintenance time, because bodies remain on pipe header. In this way, bodies can be reused, and only spray tips are replaced.

MULTIPLE HEADS

Applications:

Cooling processes
Firefighting
Watermist firefighting
Industrial watermist

Shape of spray	Angles	Flow Rates range	Threads range
	130°	3.5– 42 Lpm	3/8” - 1”

Since the droplet size partly depends upon the nozzle orifice size (among other factors), these multi-orifice nozzles produce a finer spray than a standard full cone single-orifice nozzle working at the same pressure and delivering the same quantity of liquid. **We can design for you special versions of this nozzles, tailored on your application.**

HIGH PRESSURE

Applications:

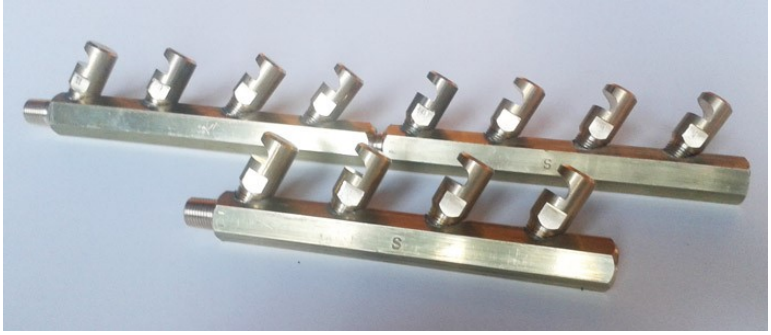
Firefighting
Anti explosion
Painting

Shape of spray	Angles	Flow Rates range	Threads range
	5° - 90°	1.5– 490 Lpm	1/8” - 2”

This Spraytecs nozzle uses high pressures to create low angle, very directional full cone spray patterns focused in a very small area. This produces a full cone with fine and very fine mist droplets, depending from design, working pressure and flow rate of the nozzle. Moreover it is available the Spraytecs nozzle guard as option, to protect the nozzle against mechanical shocks.

STRATOS SCRUBBER NOZZLES & SPIRAL NOZZLES

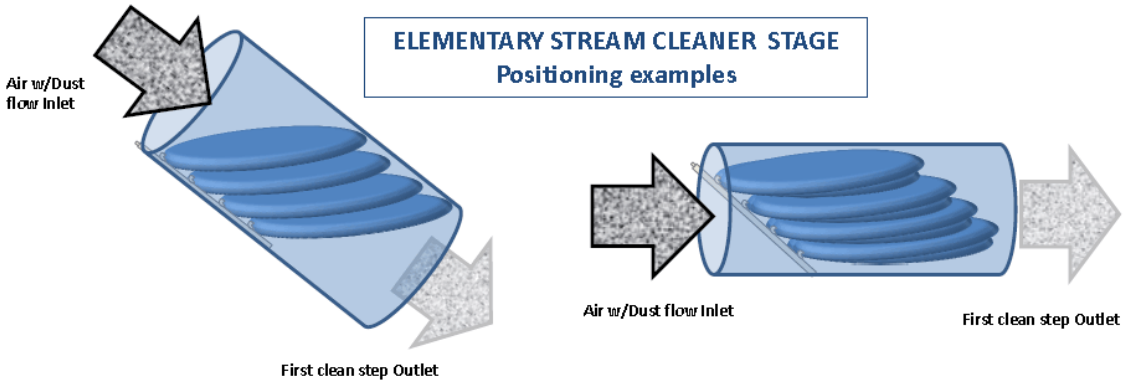
STRATOS



Spraytecs STRATOS is a new Spraytecs Technology Ltd proprietary class of nozzles specifically invented and designed for the treatment and reduction of suspended particles inside fumes and gases containing various substances, therefore suitable to be installed in wet scrubbers, washing towers, Venturi scrubbers, and everywhere is important improve pollutants selective collection in a gas treatment process design or revamping.

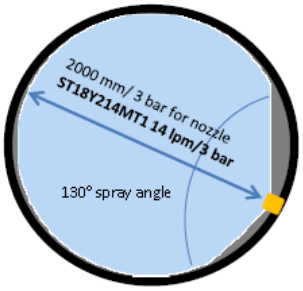
The name of the series of nozzles for the stream dust removal design concept is STRATOS, because the action carried out is the emission of several superimposed layers of laminar flow, with spray angle of 130°, on a circular area (as a cilindric duct), so to create a multi-layer sandwich of small droplets (200 microns on average), very close together, with air zones in the spaces between water layers.

The STRATOS nozzles Spraytecs enable new project solutions for wet scrubbers designers, because it is now possible capture a larger number of suspended particles of small size, with low consumption of water and reduced sizing of pumps in plant of treatment fumes smaller, saving money in initial investment and cost of plant or device exercise.
Details available on our website document: **STRATOS Scrubber nozzles fluidics basics**

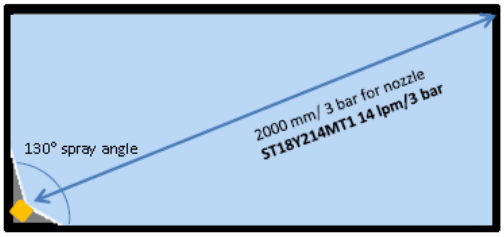


Spraytecs Technologies Ltd, UK - Document (28/12/2015)

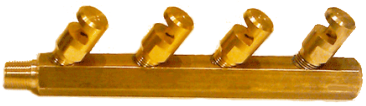
Flat jet layers shape of Stratos nozzle in a Circular Duct



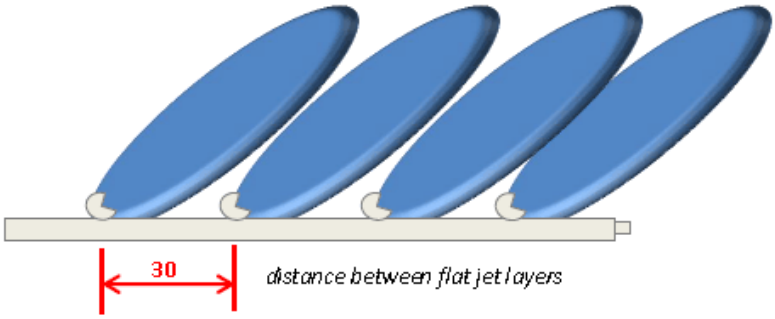
Flat jet layers shape of Stratos nozzle in a Squared Duct



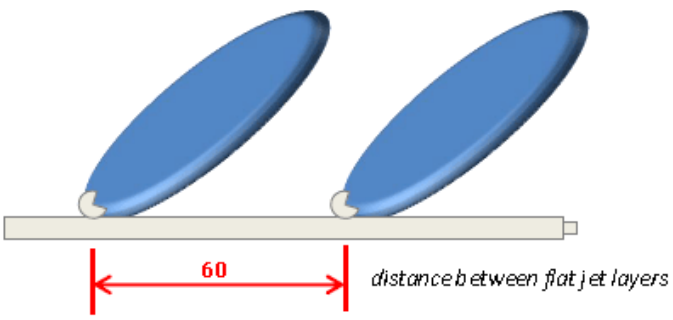
The Spraytecs STRATOS nozzle is available with different flow rates, size of drops, threads and construction materials, so as to allow different design configurations, and allow the micro-particles suspended capture performances as per desired goals with different kinds of contaminants to be treated.
In many applications designers will can consider water mist flow control through an accurately designed demister stage.



ST18Y214MT1 14 lpm/3 bar, 4 layers

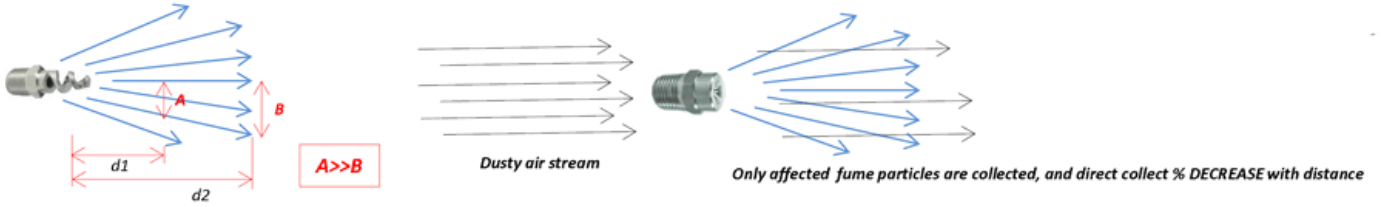


ST18Y207MT1 7 lpm/3 bar, 2 layers



The fluidics Basic Principle of Spraytecs STRATOS multi-layers nozzles

Spraytecs Technologies Ltd, UK - Document (28/12/2015)



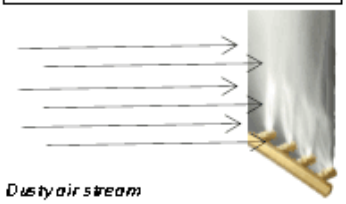
Standard spray nozzles droplets have directions that raise their tangential distances between droplets distribution in the space, and distances are proportional to the distance from the nozzle orifice, that is the point of origin . This can be a problem when spray droplets must collect small size floating particles, because the percentage of collect performance varies with the distance from the nozzle orifice, and smaller particles are almost difficult to collect. This fact is partially attenuated by droplets sizes that decrease with throw distance, and raise in number.

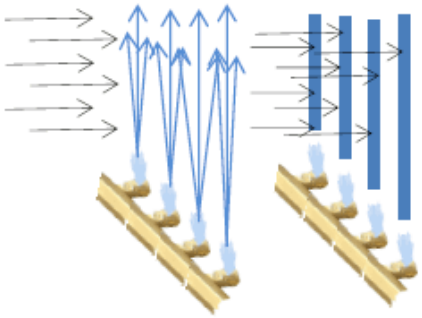
STRATOS nozzles *give you two basic ways to collect particles inside dust flows:*

- **Tangential Flow**
- **Crossflow**

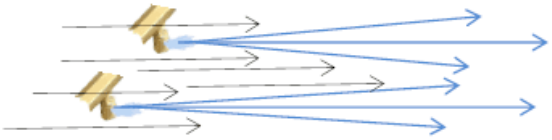
Only affected fume particles are collected, and PMx particles direct collect percentage INCREASE with distance and raising the number of laminar water layers to overpass.

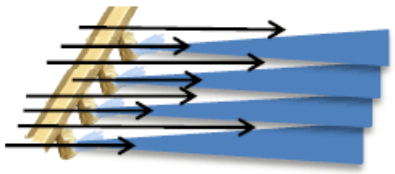
Tangential Flow positioning





Crossflow positioning





Fume particles are compressed between uniform flat jet layers (that are moderately diverging from orifice) and then collected, thus PMx particles direct collect percentage INCREASE with distance, raising the number of droplets and decreasing their sizes and mass.
Therefore new horizons are now available in PMx collect precision, thus in design, economics, dimensions, performances of Wet Scrubbers

SPIRAL NOZZLES DESCRIPTION

SPIRAL NOZZLES

Applications:

Dust suppression
Firefighting protection
Flue gas desulfurization (FGD)
Hardening

Shape of spray	Angles	Flow Rates range	Threads range
	**60 - 180°**	**5.5– 165 Lpm**	**3/8" - 3/4"**

In these nozzles as it exits, the fluid deflects off the spiral surfaces to form the hollow cone pattern. This fact assures minimal clogging and maximum flow through passages than other nozzles of comparable size.

SPIRAL HIGH FLOW

Applications:

Cooling
Washing
Rising

Shape of spray	Angles	Flow Rates range	Threads range
	60° - 180°	260– 4,120 Lpm	1” - 4”

This family of spiral nozzles has a high-flow capability, and assures for very long time an high volume of liquid passage in your critical industrial process. Spiral nozzles provide an excellent coverage and are an ideal solution for cooling, washing and rinsing.

FLAT JET NOZZLES DESCRIPTION

FLAT NOZZLES LOW FLOW

Applications:

Coating
Cooling
Humidification
Washing

Shape of spray	Angles	Flow Rates range	Threads range
	25° - 110°	0.25– 1.60 Lpm	1/8” - 1/4”

These flat jet nozzles have a high efficiency and a low flow rate, this means that employ a small amount of fluid to obtain the spray angles of the desired coverage.

FLAT NOZZLES MEDIUM FLOW

Applications:

Coating
Street cleaning
Filter cleaning
Rain curtains

Shape of spray	Angles	Flow Rates range	Threads range
	20° - 120°	1.9– 47 Lpm	1/8” - 3/8”

These SPRAYTECS nozzles produce flat sprays characterized by low and medium flow rates, and small and medium size droplets. The flat jet is formed by the concentration of the drops at the nozzle outlet (orifice), which form angles of different amplitudes according to the parameters of the project.

FLAT NOZZLES HIGH FLOW

Applications:

Coating
Street cleaning
Filter cleaning
Rain curtains

Shape of spray	Angles	Flow Rates range	Threads range
	15° - 95°	59– 158 Lpm	1/2” - 1”

These flat jet nozzles have a high impact and high efficiency, this means that they need a smaller amount of fluid to obtain the spray angles of the desired coverage.

FLAT ARROW NOZZLES HIGH IMPACT

Applications:

Degreasing
Street cleaning
Filter cleaning
Gravel washing

Shape of spray	Angles	Flow Rates range	Threads range
	0°	1.9– 370 Lpm	1/8” - 1”

The flat jet arrow stream nozzle is not suitable to produce an atomized spray pattern, because it has been designed for maximum jet power. Our design engineers was committed to prevent concentrated jets from disintegrating into drops at large distances. These SPRAYTECS nozzles produce a compact, uniform and solid stream jet in a wide range of flow rates.

FLAT COMPACT NOZZLES

Applications:

Coating
Cooling
Humidification
Washing

Shape of spray	Angles	Flow Rates range	Threads range
	45° - 120°	4.9– 76 Lpm	1/4” - 3/4”

These SPRAYTECS nozzles are very low, and are useful in all situations where compact dimensions are very important. If mounted in series on manifolds or pipes, these Spraytecs nozzles produce a linear zone with uniform distribution of drops, suitable for continuous manufacturing processes (conveyor belts cleaning, surfaces cooling, and many others).

HIGH PRESSURE FLAT JET

Applications:

Industrial cleaning
Surface treatment

Shape of spray	Angles	Flow Rates range 100 Bar	Threads range
	5° - 25°	0.7 – 70 Lpm	1/8” - 1/4”

These SPRAYTECS nozzles are designed for high pressure applications, as cleaning and treatment of hard surfaces. They are available in special hardened stainless steel and other special materials on request.

WIDE ANGLE JET NOZZLES

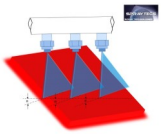
Applications:

Firefighting
Washing
Cooling

Shape of spray	Angles	Flow Rates range	Threads range
	130° - 180°	0.4– 350 Lpm	1/8” - 1”

These nozzles are ideal in processes that require a wide angle of coverage as in the field of fire-fighting, or to isolate, clean and cool vertically areas, or when used in the process of washing of foods, gravels and bulk materials placed on a conveyor belt .

DOVETAIL FLAT JET



Applications:

Degreasing
Street cleaning
Filter cleaning
Gravel washing

Shape of spray	Angles	Flow Rates range	Threads range
	0° - 110°	3 - 78 Lpm	3/4” - 3/8”

The Spraytecs TD series flat jet nozzles have a self-aligning dovetail connection that allows a safe right positioning for every nozzle, in order to be sure obtain the correct spray angle offset towards the roll center line in your application.

SMALL ANGLE JET

Applications:

Cleaning processes
Washing

Shape of spray	Angles	Flow Rates range	Threads range
	15° - 50°	3.9– 78 Lpm	1/8” - 3/4”

In these high impact nozzles the liquid passes through the body of the nozzle, hits the surface of the deflector and extends towards the outside, forming a flat jet of high energy and strong impact. The circular shape of the orifice and the output of the internal structure minimize the risk of occlusion in the majority of installations. These nozzles are very good in processes that require a narrow angle coverage and high impact energy for clean and cool the areas of interest.

TANGENTIAL SPRAY

Applications:

Reduction of fumes
Cooling and gas storage tanks
Process cooling and large surfaces cooling,
automatic washing systems

Shape of spray	Angles	Flow Rates range	Threads range
	50° - 120°	0.4– 665 Lpm	1/8” - 2½”

The tangential spray nozzles produce an hollow cone spray. This hollow shape is formed from concentrated drops on the outer surface of cone. They feature a good resistance to occlusion since they have free passages internal rather large compared to the size of the fluid

IN LINE WIDE ANGLE SPRAY NOZZLE

Applications:

Reduction of fumes
Dedusting of environment an processes
Dust control in mining operations

Shape of spray	Angles	Flow Rates range	Threads range
	150° - 180°	7.8– 500 Lpm	3/8” - 2½”

These In line wide angle spray nozzles offer an high efficiency, with a less quantity of fluids in order to obtain the wide angle sprays needed.

IN LINE HOLLOW SPRAY

Applications:

Reduction of fumes
Dedusting of environment and processes
Dust control in mining operations

Shape of spray	Angles	Flow Rates range	Threads range
	60° - 90°	0.2– 19.6Lpm	1/8” - 1/2”

The drops in these nozzles are of small size, with a spray angle of range between 60°, 80° and 90° obtained with the use of a special slotted vane that establishes spray angle and drops size.

LINE HOLLOW FREE OF SWIRL

Applications:

Dedusting of environment and processes
Dust control in mining opera-tions

Shape of spray	Angles	Flow Rates range	Threads range
	60° - 90°	0.2– 19.6Lpm	1/8” - 1/2”

These In line free of swirl spray nozzles offer high efficiency, with a less quantity of fluids in order to obtain the spray shapes needed. They have good resistance to occlusion since their minimal internal free passages are of large dimension.

HYDRAULIC ATOMIZERS DESCRIPTION

HYDRAULIC ATOMIZERS

Applications:

Humidification systems
Painting
Chemical processes

Shape of spray	Angles	Flow Rates range	Threads range
	**20° - 90°**	**0.1– 5 Lpm**	**1/4" - 9/16" 24 UNF**

Hydraulic atomizer produce a fine atomized spray even at low pressures. The spray shapes are hollow cones as standard, but also full cone shapes are availables.

OIL BURNERS NOZZLES

Applications:

Domestic Oil
Burners
Heating Units

Shape of spray	Angles	Flow Rates range	Threads range
	**30° - 80°**	**1.2 - 22.5 Lpm**	**9/16" 24 UNF**

Spraytecs precision nozzles OB series are expressly designed for Domestic Oil Burners and Heating Units applications. And worldwide the control of the oil flow rate and the fine grade of atomization are mandatory rules in order to assure clean and economic combustion. The body and internal swirler are made of high chrome grade stainless steel (AISI 416 SS), in order to assure a long operative life of the nozzle, due to the high heat resistance of this stainless steel.

AIR ATOMIZERS DESCRIPTION

AIR ACTUATED ATOMIZERS

This innovative compact **AA series Air Atomizer** full cone spray jet is suitable for many applications, where **very low liquid flow rate** is imperative and very small drops are needed.

The small dimensions permits a wide range of solutions to install these atomizers in small spaces.

The above shown AA series Spraytecs Air Atomizer has a flow rate of only **0.24 lph at 1 bar**.

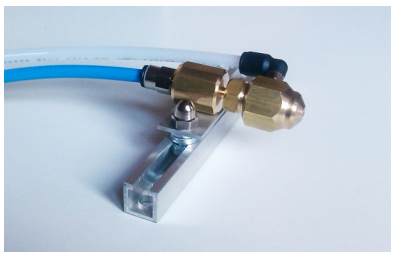
Liquid Inlet and Air Inlet are M5, female.

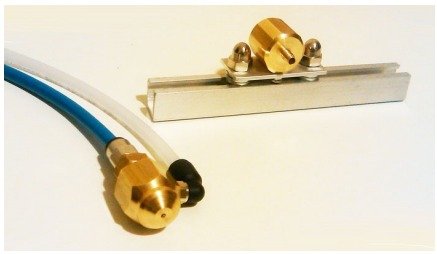
Through **Spraytecs thread adaptors**, it is possible fit AA series Compact Air Atomizers with 1/8" BSP and 1/4" BSP threads; see details in the install accessories section.

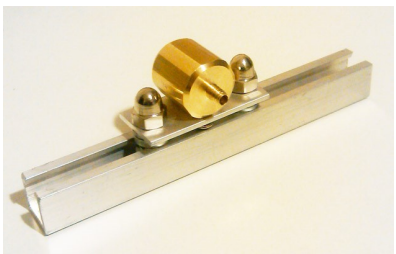
The internal atomizer design is smart, and the formation of big drops leakage does not happen, also when the spray service is stopped after a process cycle.

Moreover for an easy installation of the AA series Compact Air Atomizers, Spraytecs has designed a complete line of **thread adaptors, compact manifolds and brackets** for the best installation in your industry application.

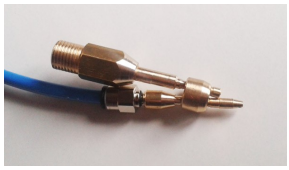
The **brackets** are compact, can be positioned in-line on a suitable **rail** and have **built-in thread adaptors** with various inlets for **threads 1/4" BSP male and female, 1/8" BSP male and female, M5 female**.

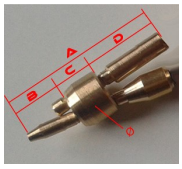






MODULAR MICRO ATOMIZERS





The picture on te left shows the spray pattern of these air atomizers.

The innovative Spraytecs **Modular Micro-Atomizers** give new interesting solutions in all industry applications where:

- **spaces are very small**
- **the fluid viscosity performance after pulverization is difficult to calculate, and the right atomizer must be tuned accurately insite among a list of capacity values**
- **minimal flow rate needed**
- **accurate positioning of the atomizer is critical**
- **weight of the atomizer is important**

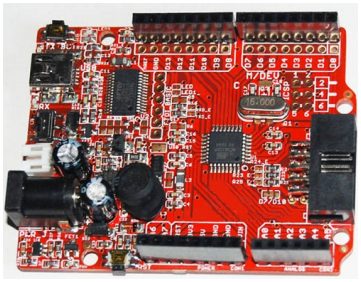
Modular Micro-Atomizers were not designed as simple components, but as elements of **a complete engineering system** to design, test and definitively solve a wide part of spray mist applications in your industry.
They can be composed with a family of **Micro-Nozzles, Micro-Pipes, Spherical Joints,** and finally governed by **SACS (Spraytecs Atomizers Control System) Units**, a family of electronic based control units with a range of possible performances (please see details on this website, in the SACS page), friendly and easy to use.

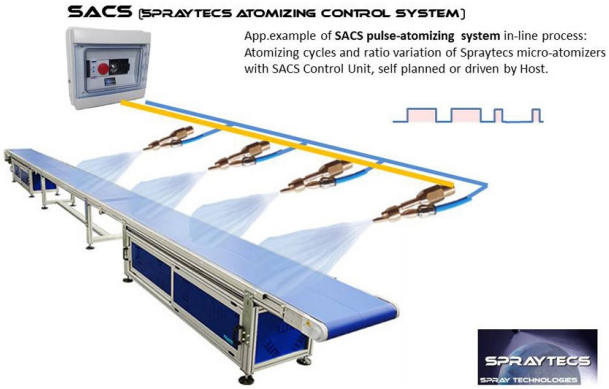
Moreover the MA series air atomizers are designed also to can apply the **Spraytecs Electronic Driven Variable Atomization (SEDVA)**, in order to spray very small liquid volumes, with a flexible adjustment of the spray flow rate for different products, in the same or different lot of production.

This can be easily obtained in your process through the **SACS Control Unit** action on one (or two fluids) in the same time, opening and closing the flow with the exact frequency and ratio (between open and close fraction time for every cycle) needed in the process. This method will obtain a fractionated flow, with fractions of the normal flow capacity of the atomizer.

A Spraytecs MA series Micro-Atomizers equipped with Spraytecs SACS Control Unit atomizing system can execute repetitive actions on the fluid status (flow-on or flow-off) for a minimal time of 100 ms (if really necessary, the minimum time can reach 10 ms) to whatever time interval, after that time it is possible maintain the opposite status between 100 ms to hours, and a single SACS Unit can drive one or many MA series Micro-Atomizers.

SACS (SPRAYTECS ATOMIZERS CONTROL SYSTEM)





Spraytecs **SACS (SPRAYTECS ATOMIZERS CONTROL UNIT)** are a family of friendly electronic Control Units to drive, control, improve, automate your fluid based systems.

SACS Control Units can work stand-alone, or can interact with other process machines, CNC machines and Host computers, directly linked or wi-fi linked.

SACS are available in a scalable range of features, with inside basic or powerful electronic Control Unit and a list of devices as electronic driven valves, sensors, manometers, leds, displays, all with a common detail: the high quality and high value of every single component, to offer a superior reliability 24/7 of continuous service.

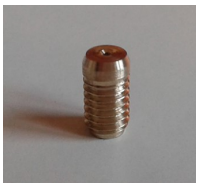
SACS are designed to improve your fluid based system, and give a quick solution in a part of your whole industrial process, with components designed and tested to work together, as already experienced sub-system ready to install and work.

SACS can help both Purchase Department and R&D Dept. because can represent a local solution in a single detail of the process when one, two or more different fluids (air, gas, liquids, powders) must work with one or many nozzles, air atomizers, hydraulic atomizers. Work means quick time to atomize fluids, spray and stop, vary the percentages mix between fluids, cool, wet or dry a product during manufacturing, and so on.

AIR BLOWERS NOZZLES

This class of air nozzles is expressly designed for the various Air Blowing applications using compressed air or technical gas fluids for cooling and manufacturing operations and are available in many different versions about performances, thread sizes, materials, air flow-rates, regulations compliant as EC n.1935/2004, EU 10/2011, FDA reg.21 CFR, OSHA, DIN EN ISO 9612.

The Spraytecs Air Nozzles BW series for compressed air are specialized in **CNC machine tools cooling, to substitute** (or to add a great improving to liquid cooling system)) with a concentrate compressed air cooling system **the existent liquid cooling system** during high temperatures reached during the **machining operations**, as milling, cutting, drilling, surfaces grinding, tools sharpening, routing and tires grinding.






Spraytecs main design target is the constant increasing of tool life due to the lower working temperatures and a low quantity of compressed air to do it, with as direct consequence a great save of money in the CNC machine tool total working costs on yearly basis.

Compressed air pressures in the range 2 bar/8 bar (30 psi/120 psi) give great cooling results with the right installation nozzle set solutions, in the larger number of machine tools.

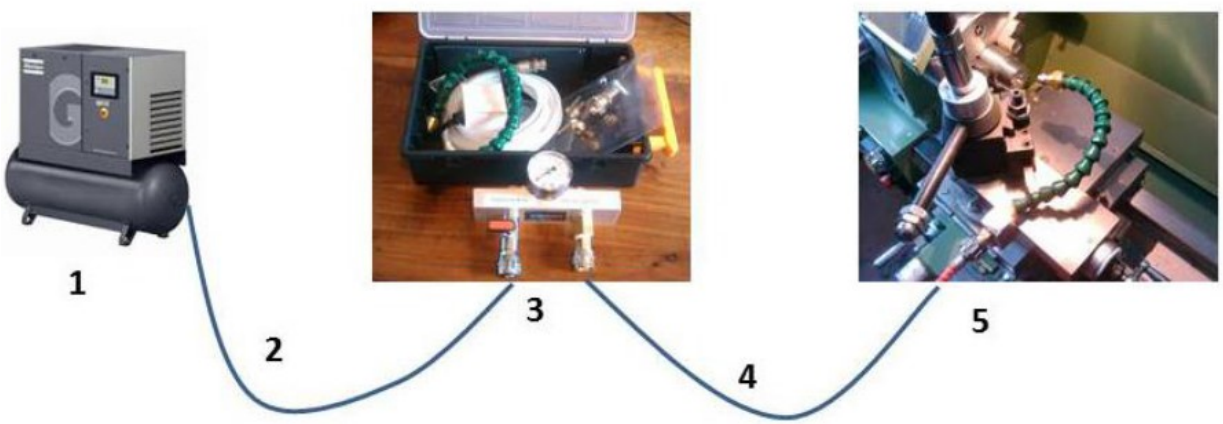
There are several advantages to consider the substitution of the existing liquid cooling wit a compressed air cooling in your CNC machines:

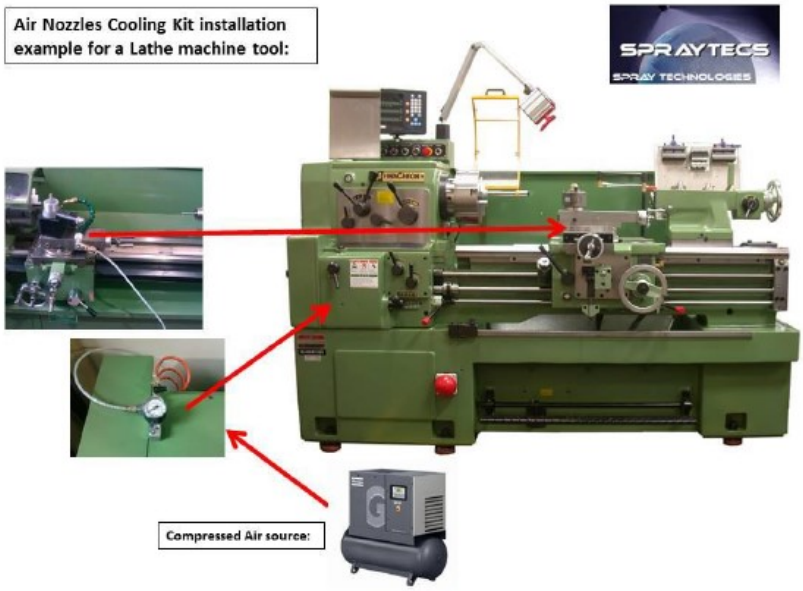
- **all machined parts are absolutely clean and dry when come out your machine**
- **no need, no costs for operations to clean and dry the just manufactured parts and therefore they are immediately available to be packaged and shipped**
- **no dust or oil traces in the machine internal vanes**
- **no liquids to be managed when needed, with lost time and expenses related**
- **no spaces, recipients, machines needed to stock/manage new and exhaust coolants**
- **no dangerous vapors, fumes or coolant contacts with operators, improving work conditions**
- **more value for your cleaned scraps amount when you will sale it**
- **no risks and production delays/damages for cooling system default, because there are no parts with possible wearing**
- **no toxicity in coolant fluid, no water needed, air is an environment friendly solution**
- **no corrosion and no wet in machined materials**
- **high energy to move the chips out of the way of the machine tool cutter**
- **focused compressed air to eliminate the Shock Cooling actually micro-cracking your carbide tools**
- **small amount of compressed air to obtain great cooling results**

However Spraytecs suggest that every machine tool must be tested on what kind of materials, machine tools and machining operation can be performed at the best with air cooling or other cooling solutions.

Materials and production are all strictly of West Europe origin, with certificates available.

AIR COOLING KITS FOR MACHINE TOOLS, LATHES, CUTTERS





Air Nozzles (characteristics in table) supplied in the kit PRO are in stainless steel, thread 1/8 " (for general use or machining with possible shocks) and in brass, thread M6 (for working in small spaces).

Various special nozzles for compressed air Kit PRO **are available**, also with special micro-tubes in different lengths, **by your Technical Components Distributor.**

The working air pressures suggested are 2 bars for turning and milling of steels at low feed speed, while for workings more intensive and in the cavities is suggested a pressure of at least 5 bar for the duration of processing.

Obviously, the nozzle should always be oriented on the cutting edge through the flexible hose, at a distance included between 5 and 15 cm.

Below the characteristics of nozzles supplied in the PRO kit (other versions of nozzles and accessories are available in the catalog):

Nozzles included in the Kit PRO:				Blowing force				Air consumption		Air velocity		Noise at 91 cm		
			Distance	2 bar 30 psi		5.5 bar 80 psi		2 bar	5.5 bar	2 bar	5.5 bar	2 bar	5.5 bar	
Codes:	I.Conn.	Ang.°	mm	N	grams	N	grams	slpm	slpm	m/s	m/s	dB	dB	Mater.
BWM6A130MT1	M6	0	150	0,54	55	1,20	122	40	75	12,8	22,7	50	60	Brass
BW18A120MB1	1/8"	0	150	0,34	35	0,97	99	37	68	11,8	21,6	69	79	Stainless steel

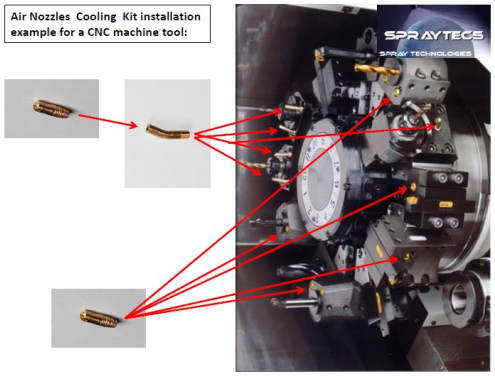
After all necessary evaluations, the Air cooling kit PRO can be installed on:

MINIMAL LUBRICATION KIT FOR CNC MACHINE TOOLS, LATHES, CUTTERS

This kit is an extension of the performance of the Spraytecs air cooling kit and is designed to work in conjunction with it.

Spraytecs Minimal Lubrication Kit intervenes whenever a film of lubricant on the cutting edge is recommended (tapping or machining aluminum and the like).

It consists of a wall unit set with a tank containing 7 liters of cutting oil (derived from vegetable products, therefore harmless) and by an electronic system of Minimal distribution of oil on the cutting edge, powered with direct current in any voltage between 12 V DC and 24 V DC at the choice.

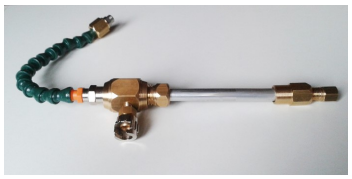


The oil is dispensed in micro-droplets mixed in the cooling air, only when the processing step makes it necessary and in the amount pre-determined by the operator, typically a few ml for machining phase. The lubrication drive can be automated, by the CNC program-controlled unit when it is connected to a CNC machine.

We realize oil consumption insignificant, but significant are the monthly savings compared with the use of conventional emulsifiable liquids for mechanical processing, enabling amortization of the cost of this solution in 2-3 months of normal activities of the machine, with substantial savings in operator time, direct costs and administrative costs of handling traditional emulsifiable liquids.

THERMAL DROP NOZZLES

The TH series nozzles are expressly designed to obtain a significant **thermal drop** when the ambient temperature compressed air is canalized in the nozzle inlet and the temperature drop is obtained in the out coming compressed air (temperature decrease values between 15°C to 30°C depending from many factors, as inlet pressure and TH nozzle model).
Spraytecs TH series Air Thermal Drop nozzles can use also other gases and are suitable in all applications where an **intensive focused cooling** is needed, as**CNC machining operations**, milling, cutting, drilling, surfaces grinding, tools sharpening, routing, tires grinding, or other industry processes.



In all CNC machines and lathes currently working, it is possible to substitute the actual coolant water-chemical based in the machine cooling system, with a clean and health-friend solution as compressed air. Ask to your local Spraytecs Authorized Distributor for any technical advise about the cooling system substitution.
Moreover they can be installed in an existing compressed air cooling system for the machine, where the low temperature level of the air cooling must be improved. In such case please request us our technical support to reach the best result in your application.

The main target of these Spraytecs nozzles is the increasing of tool life due to the lower working temperatures, but as direct consequence there is also a great save of money in the CNC machine tool exercise costs on yearly basis.

CO^2 NOZZLES

Applications:

Dry ice blasting machines
Machine tools cooling
Process cooling
Fire-fighting systems

This class of nozzles is designed for CO^2 applications as dry blast cleaning in manufacturing processes, as spare parts for CO^2 dry blasting cleaning machines, as CO^2 discharge nozzles for firefighting applications.
Materials and production are all strictly of West Europe origin, with certificates available

OZONE NOZZLES

Applications:

Sanitization processes
Cosmetics manufacturing

Shapes of the spray

This class of nozzles is designed for Ozone High Velocity flow stream applications, their design is based on Venturi principle and are available in many different versions about thread sizes, materials, air flow-rates.
Materials and production are all strictly of West Europe origin, with certificates available

AIR IMPACT NOZZLES

Applications:

Machine tools cooling
Process cooling
Process drying
Dust cleaning
Conveying

Shapes of the spray

These general purpose cooling nozzles are suitable where a concentrate air beam must hit with energy a small area. Typical application is the cooling of very hot materials surfaces, vanes and holes, as metal alloys, aluminium, magnesium alloys, etc.

Moreover are available suitable **accessories** as **nipples** and **flexible-pipes** of different lengths to fit at the best your cooling direction needs.

AIR IMPACT NANO NOZZLES

Shapes of the spray

These air cooling nano nozzles are suitable where a concentrate air beam must hit with energy a small area, but there is a very small space to fit the nozzles, as in the spindle head cooling vanes and the air jet must have a particular direction.
Typical application is the cooling of very hot materials surfaces, vanes and holes, as metal alloys, aluminium, magnesium alloys, etc in mechanical manufacturing and robotics.
These nozzles have a diameter dimension of only 3 mm.
These air nozzles have a low air consumption, and meet the EU Machine directive and OSHA maximum allowable noise exposure standard 29 CFR 1910.95 (a).

AIR IMPACT MICRO NOZZLES

These cooling micro nozzles are suitable where a concentrate air beam must hit with energy a small area, but there is a very small space to fit the nozzles, as in the spindle head cooling vanes. Typical application is the cooling of very hot materials surfaces, vanes and holes, as metal alloys, aluminium, magnesium alloys, etc in mechanical manufacturing and robotics.

OSHA

These air nozzles have a low air consumption, and meet the EU Machine directive, the OSHA maximum allowable noise exposure standard 29 CFR 1910.95 (a) and the safe operation about OSHA standard 1910.242(b).
Their diameter is 4 mm.
Moreover are available suitable **accessories** as **micro-nipples** and **micro-pipes** of different angles and lengths to fit at the best your cooling needs.

Threaded Micro-Pipes

The Spraytecs Threaded MicroPipes are designed to fit the micro-nozzles and nano-nozzles in very small spaces in all machine processing contexts, from CN machine center cooling of tools from the spindle vanes, to many other precision cooling and displacement action performed with fluids.
Moreover also your R&D department could find a useful elementary component for their prototyping needs.
Our MicroPipes are available in different lenghts, thread sizes, materials, angles.

AIR WIDE FLAT JET

Applications:

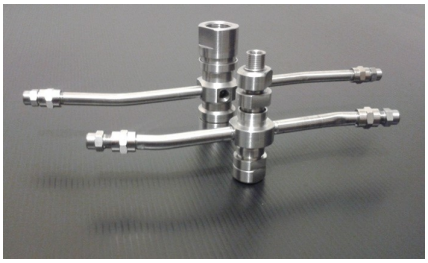
Cooling
Cleaner
Heating
Drying

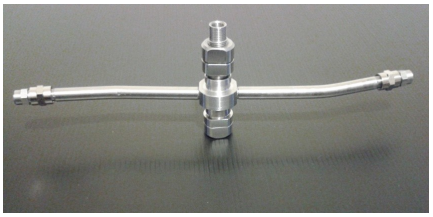
Shapes of the spray

These general purpose cooling nozzles are suitable where a wide, tangential flat air jet must hit a wide linear area. Moreover are available suitable **accessories** as **nipples** and **flexible-pipes** of different lengths to fit at the best your cooling direction needs.

CLEANING HEADS DESCRIPTION

HIGH PRESSURE CLEANING HEADS





The Spraytecs Rotating Cleaning Heads are the new smart solution for every needs in cleaning of small and medium tanks, ducts, manholes and are suitable in all industry tank and surface washing operations.

They are available in many sizes, working pressures, flow rates and are the right solution for who wish a professional reliability at an interesting price.

Here is shown our Spraytecs TR18XP, not only a rotating cleaning head but a "cleaning system" in a compact body.

This rotary head is expressly designed to quickly clean small tanks or ducts at high pressure and without expensive fixed systems.

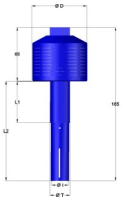
It can be fitted on the gun of a normal pressure washer (1/8" BSP thread), and it represents a very fast way to clean any kind of small space.

Different lenght of arms are available, and many different nozzles in order to meet all your different working context.

Here left a medium arms version of Spraytecs TR18XP rotating cleaning head.

FILTER NOZZLES DESCRIPTION

FILTER NOZZLES WITH HORIZONTAL SCREENS

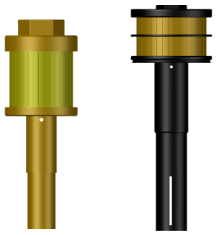
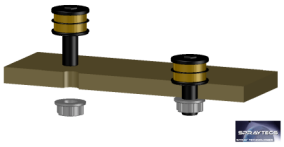
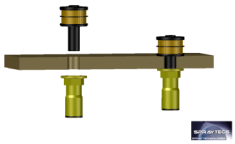

ACCESSORIES


NUT M24


GATE VALVE NUT M24

Spraytecs range of Horizontal Screens Filter nozzles, expressly designed for water treatment and other fluids cleaning/treatment applications. They are available in different plastics (PP, PVDF, PPFV or others) and stainless steel alloys materials (AISI 304, AISI 316L, Hastelloy C276, Hastelloy C22 or others).

FILTER NOZZLES WITH VERTICAL SCREENS

Spraytecs range of Vertical Screens Filter nozzles, expressly designed for water treatment and other fluids cleaning/treatment applications. They are available in different plastics (PP, PVDF, PPFV or others) and stainless steel alloys materials (AISI 304, AISI 316L, Hastelloy C276, Hastelloy C22 or others).

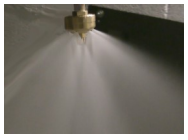
DAF - DISSOLVED AIR FLOTATION NOZZLES

Spraytecs DAF nozzles are expressly designed for Dissolved Air Flotation water treatment applications.
They are available in different plastics (PP, PVDF, PPFV or others) and stainless steel alloys materials (AISI 304, AISI 316L, Hastelloy C276, Hastelloy C22 or others).
Different sizes are available on request. Different materials than shown here are available on request.

FIREFIGHTING COMPONENTS & PRODUCTS

We design and manufacture many devices for firefighting industry. Here the main groups of articles.


Directional Spray Nozzle and Sprinkler


Water Mist nozzles



Foam Generators


Platform Towers for Foam Monitors


Water Spray nozzles


Foam Nozzles and Water Branchpipes, Lances, Water Shields


Manual, Self Swinging and Hydraulic Foam Monitors, Hydrants


Bladder Tanks with Foam Mixer

WATER MIST NOZZLES

Applications:

Fire Protection systems
Explosion Protection systems
Lumber Drying
Humidification systems

Test of a water mist nozzle for the protection of a tiny zone, positioned far from the nozzle.

Test of a water mist curtain Spray-tecs for the protection of a theater curtain and the surrounding décor.

Barrier with water mist blade Spray-tecs installed in a compartment of access to industrial warehouse.

As general, Water Mist nozzles are designed to obtain spray pattern based on more than 90% of very fine droplets, with single droplet size less than 1000 microns.
But this is only a basic standard definition of Water Mist, because many of these nozzles can make very small droplets, in the range between 5 to 50 microns.
Main application is in the market of Fire Protection, which uses as a barrier for water protection of accesses and curtains of theaters, such as strengthening and defense of fixed and mobile mechanical protection curtains, cable ducts, chimneys, crevices and loopholes. All the mentioned cases have problems that only a specifically designed nozzle solves effectively.
Even the uses of this Spraytecs water mist nozzle for the purpose of general risk reduction, such as cooling quote in areas subject to concentrated and abnormal overheating, can prevent fires and explosions, and thus exclude the need for action of the complete plant shutdown. Intervention that sometimes causes significant collateral damage. Are available both WaterMist nozzles for Low Pressure and High Pressure systems, resulting in different strategies of intervention and number of nozzles used.

DIRECTIONAL NOZZLES HIGH VELOCITY

Applications:

Fire Protection systems
Explosion Protection systems
Cooling

SPRAYTECS Series UP are High Velocity, Open (Non-Automatic) Directional Spray nozzles and they provide a spray angle of medium value, and they discharge a uniformly filled cone of high velocity water droplets of medium size.
The SPRAYTECS UP Water Spray series is produced today with a spray angle of 80°, but other values of openness of the jet are in development and will be very soon available.
As general consideration, these Water Spray nozzles are suitable when a high velocity water application is required, such in case of protection of flammable liquids.

DIRECTIONAL NOZZLES MEDIUM VELOCITY

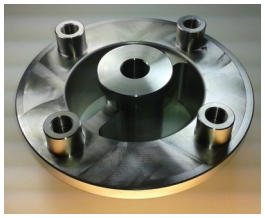
Applications:

Fire Protection systems
Explosion Protection systems
Cooling

Angles	Flow Rates range	Threads range
130°	8.1 - 199.2 Lpm	1/2" and 3/4"

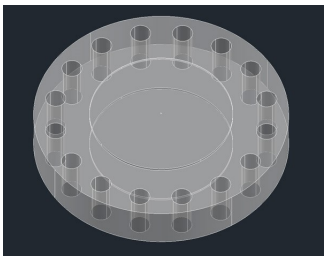
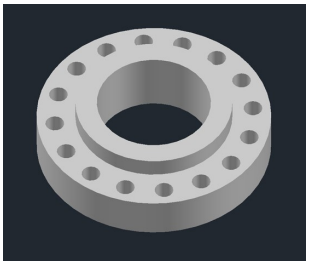
The nozzles of the SPRAYTECS UK series are open (non-automatic) directional spray nozzles and they are designed for use in water spray fixed systems for fire protection applications.
They provide a spray angle of high value, and they have an external deflector that discharge a uniformly filled cone of medium velocity water droplets.
The SPRAYTECS UK Directional Spray series is produced by normal spray angle of 130°, but other values of openness of the jet can be supplied on request. The available on request values are 65°, 80°, 95°, 110°, 140°, 160° e 180°.
The UK series SPRAYTECS Nozzles have good performances in covering exposed vertical, horizontal, curved, and irregular shaped surfaces in cooling spray systems to prevent excessive absorption of heat from an external fire and consequent structural damage or spread of fire to the protected equipment.

SPECIAL NOZZLES AND SPRAY VALVES




We design and manufacture special spray nozzles and spray valves products under your requirements and expressly customized for your special application, with a tailored approach with your engineers starting from your first contact.

FLANGES IN SPECIAL MATERIALS

We are manufacturer of small, medium and large size special flanges (and special parts) because they are obtained only by CNC machining of special materials, as Hastelloy B2, Hastelloy C22, Titanium, Hastelloy C276, Monel 400, Incoloy 825, Duplex S31803, SuperDuplex S32750 and in many other Special Alloys, in order to meet any special requirements from our customers.

We obtain our flanges not from forging process, but from CNC machining cold process of a virgin material bar, purchased only in West-European steelworks (we can give you the material origin certificates).

Materials and production are strictly of European origin, with origin certificates available.

Here is a Standards list of main current manifactured Flanges:

- **ANSI B16.5 (1/2" - 24")- Class 150, 300, 400, 600, 900, 1500, 2500**
- **ANSI B 16.47 Series A Class 150, 300, 400, 600, 900**
- **ANSI B16.47 Series B Class 75, 150, 300, 400, 600, 900**
- **ANSI B16.1- Industry Standard - Class 125LW, 125 SO, 125WN, 250**

Accessories and other Components



Applications:

Piping
Connections
Threads
Fitting
Nozzles protection


Te cleaning heads can be equipped with plates guards to save the operator and the devices from dangerous shocks during the cleaning operations, as is shown in the picture here above.

These SPRAYTECS Components are solutions for many contexts in industry applications and plants. Many of them can be designed expressly for your special applications. We make Quick Fit Clamps, Swivel Nozzle Clapms, Swivel Joints, Pipe Clapms, Locknuts and Internal Filters, Static Line Filters, Nipples, Nozzle Guards, Drilled and Threaded Pipes.

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All our documentation is regularly updated as a result to the continuous evolution of products and is ever fully downloadable from our site www.spraytecs.com.

The information and product specifications provided in this catalog are to be considered as indicative and do not bind our Company.

To have detailed information on our products, please look for in our website www.spraytecs.com







Headquarters and Registered Office:2nd Floor Whitehall House - 41, Whitehall
London SW1A 2BY United Kingdom
Factory in Braintree
Phone: +44 203 1294 862 Mobile: +44 750 221 7558 - Fax: +44 2035 291 640 Email sales@spraytecs.com – Website www.spraytecs.com