



## DESCRIPTION

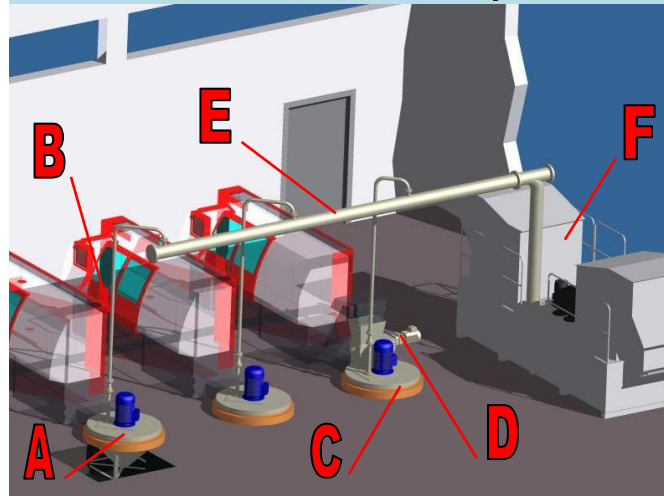
It is a system for collecting and centralising swarf and coolant. It is a versatile system, minimally invasive, easily extensible and modifiable over time that has very interesting benefits and advantages. The application of the system eliminates all problems related to swarf and oil handling.

It is therefore necessary to integrate the collection system with the filtering one and with the oil reintegration to the machines system.

## OBJECTIVE

The aim is simple: a system that allows to remove swarf and coolant from lathes, milling machines, CNC machines, ... continuously, automatically and without the constant presence of an operator to control it. One centralised swarf and oil management system, instead of one system for each machine.

COVERED DISTANCE	<i>up to 150 m</i>
QUANTITY PER LINE	<i>up to 1200 kg/hour</i>
POWER	<i>22 ÷ ... kW</i>
VOLTAGE	<i>230/400 V</i>
LOADING	<i>continuous</i>
CIVIL WORKS*	<i>dependent</i>
VERSATILITY	<i>maximum</i>
TYPE OF SWARF	<i>any</i>
COOLANT	<i>any</i>



THE DESCRIBED DATA ARE TO BE CONSIDERED AS LIMIT VALUES. EVERY CASE MUST BE STUDIED, ANALYSED, SIZED AND DESIGNED. THE NUMBER OF MACHINES THAT CAN BE CONNECTED DEPENDS ON THE DISTANCE AND QUANTITY OF SWARF.

\*THE TANKS ON THE MACHINE FOR SWARF AND OIL COLLECTION CAN BE PLACED ON THE FLOOR OR IN THE PIT. THIS WILL INVOLVE A SYSTEM FOR ATTACHMENT TO THEM, THROUGH HYDRAULIC CHANNELS OR CONVEYOR CHANNELS (PALETTES OR SHUTTERS).

## SUPPLY

- Hydraulic channels or conveyors;
- Swarf and oil collection tank with special oil relaunch pump;
- Gravity collector channel for swarf and oil recovery;
- Collection tank, with dredger for separation of swarf from oil;
- Curves, valves, pressure transducers, special parts;
- Low pressure oil reintegration line;
- High pressure oil reintegration line;
- Main switchboard, electrical wiring and compressed air line.

## OPTIONAL

- Double swarf handling line in case of multi material;
- Anti-wear kit for centrifugal pumps;
- Oil filtration system;
- Oil superfiltration system;
- Oil refrigeration system;
- Synoptic remote control;
- Remote assistance.

## HOURLY PRODUCTION

Q = 0.8 m <sup>3</sup> /h	BRASS	STEEL	ALUMINIUM	STAINLESS STEEL	COPPER	CAST IRON
Δ density [kg/dm <sup>3</sup> ]	1.5	1.3	0.8	1.1	1.0	1.4
Kg/h →	1200	1050	640	900	800	1150

THE DATA IN kg/h ARE APPROXIMATE AND IN ANY CASE DEPEND ON THE DENSITY OF THE SWARF, THE SHAPE, THE OIL CONTENT AND THE TYPE OF COOLANT. THE DENSITY DATA CONSIDERED ARE HYPOTHETICAL, BASED ON AN EXPERIMENTAL AVERAGE OF THE DATA IN OUR POSSESSION.

FAMA RESERVES THE RIGHT TO MAKE CHANGES TO THE PRODUCT WITHOUT NOTICE

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# HYDRAULIC SYSTEM

## OPERATION

Each machine, to be connected to the system, will be equipped with an oil collection tank [A or C], provided with a shredder [D] in case the swarf is long and skein-type. Each tank is equipped with a special pump that pushes swarf and oil into the manifold [E] via the pressure lines [B], each equipped with a manual emergency valve. The manifold directs the oil and swarf to the main collection tank [F]. Here, by decantation, the swarf settles on the bottom and is removed by a dredger. The swarf then undergoes its treatment and storage process. The oil/emulsion can be filtered, super filtered, refrigerated before being pumped in low or high pressure to the machines.



**EXAMPLE:** Oil and swarf collection tank on the edge of the machine. In this case, channels convey the swarf to the tank thanks to the push of the emulsion. From here the pump sends everything to the treatment tank.

**Swarf and oil collection and treatment tank:** the coolant and oil/emulsion collected by the machines are sent to this tank. The dredger [X] extracts the swarf deposited on the bottom. **Pump1** sends oil to the channels for swarf flushing and transportation, **pump2** sends oil in low pressure to the machine, **pump3** sends the oil to the filter, **pump4** sends oil in high pressure to the machine, **pump5** is used for the filter self-cleaning system [Y].

