

Smoke extraction while welding

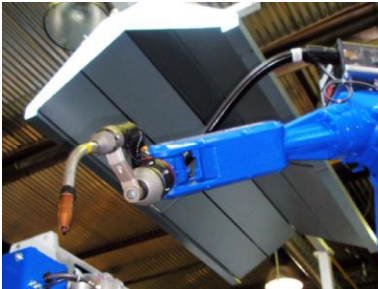


Realization dates of smoke extraction while welding

Place of realization: Monroe Czechia s.r.o.; Rychnovská 383; 463 42 Hodkovice nad Mohelkou
Period of realization: 4th quarter of 2008
Length of realization: 6 weeks

Realization content of smoke extraction while welding

Extraction by 8 welding robots



- Extraction covers for the above individual welding robots were installed.
- Extraction for the robot with 2 welding areas was achieved by the means of 2 extractor fans with automatic switches.
- The extractor fans were designed individually for each welding robot.

Extraction of 16 manual welding work places



- Individual welding work places were equipped with extracting plates, extracting fans and covers.
- The construction of extractor fans ensures smoke extraction from the breathing zone of welding employees.
- Operation of extracting performance was achieved by the means of a frequency alternator which creates electrical energy savings when production capacities are not full and during work breaks.
- Automatic rinsing of extracting pipeline takes care of clearing sediments, and indirectly avoids the risk of fire in the pipe system.

Filtering equipment



There were 3 pieces of filtering equipment of type CARM GH used for filtering

Parameters of each unit:

Filtering medium	filtering bag PES /ST
Filtering area	135 m ²
Life of filtering media	15 000–20 000 Nh
Extra cleaning necessary	NO
Exhaust pipe of filtered air particles	in winter into the hall area in summer into an outdoor environment

Extracting ventilators



There were three ventilators used for extraction, one for each piece of filtering equipment, placed in the hall for the purpose of guaranteeing noise levels of 40 dBa on the of the property.

Parameters of each ventilator:

Amount of extracted air [Q]	24 000 m ³ /h
Ventilator pressure [Δp]	4 000 Pa
Motor input [P]	37 kW

The result of realization of smoke extraction while welding

By substituting patron filters for our fabric cabinet filters CARM GH, with automatic regeneration of the filtering media by reversed compressed air, we achieved:

- the required continual extracting operation while maintaining a stable pressure loss of the filtering media
- prolonged lifetime of the filtering media from the original 4000 – 5000 working hours to current 15 000 – 20 000 working hours with multiple lower exchange costs
- the continual extracting performance with no necessity of a final cleaning of the filtering media, which was before achieved by an external company once a week and was costly
- the possibility of a full return of filtered air particles back into a hall in winter months therefore enabling expressive heating costs savings

We can provide a tour of the above mentioned realization, for you, upon your request.