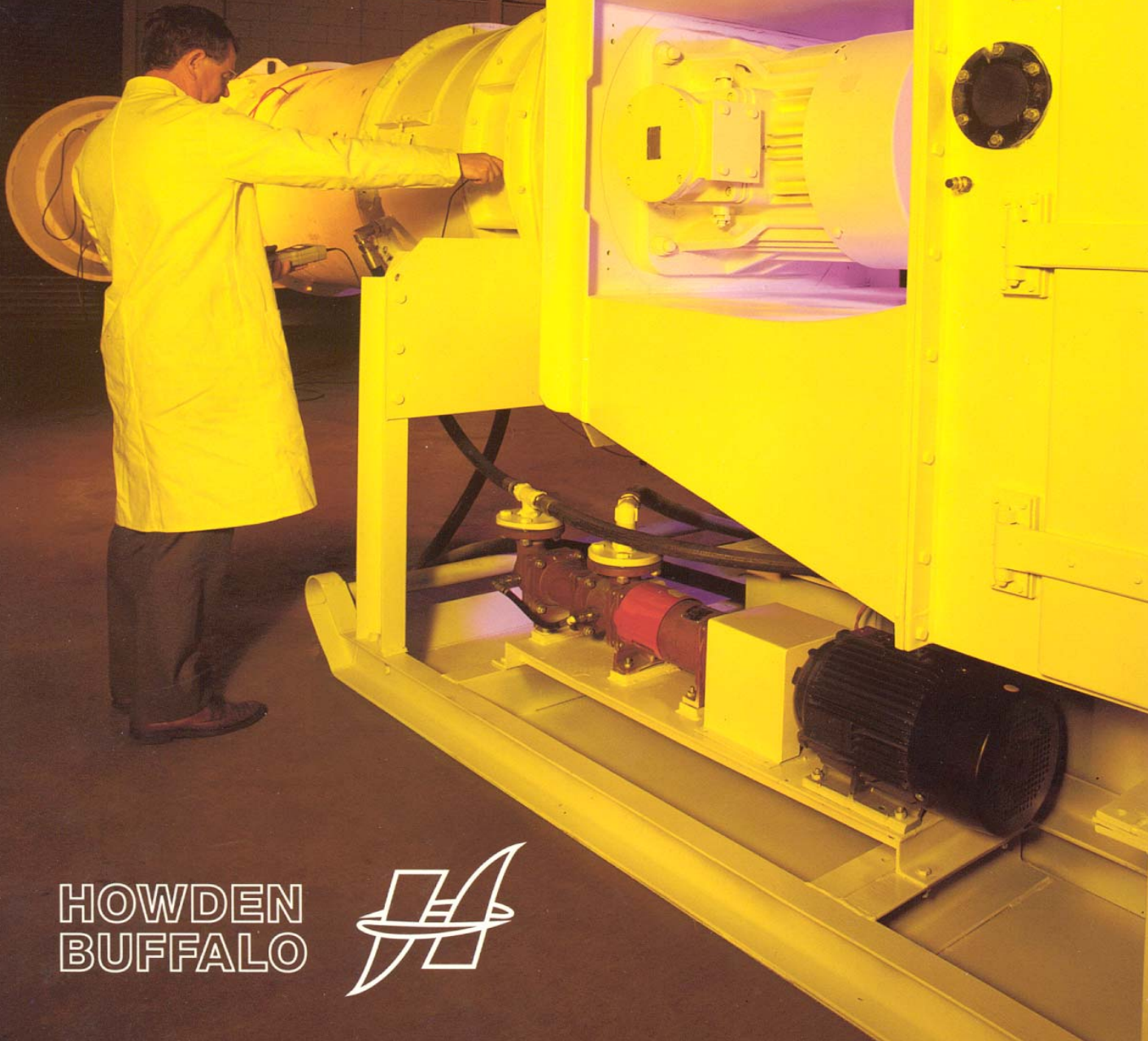


# DUST EXTRACTORS

## PRINCIPLE OF OPERATION



HOWDEN  
BUFFALO



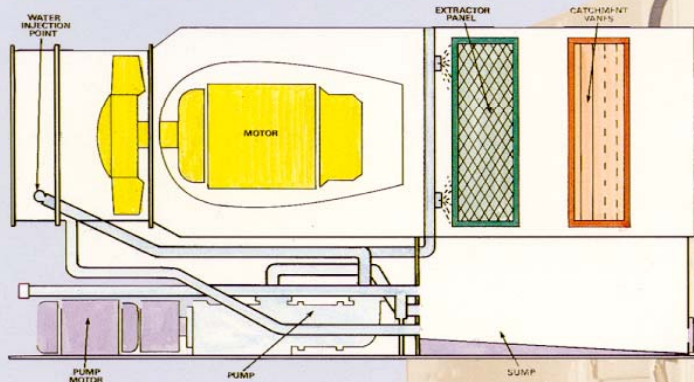
# Dust Extractors

## PRINCIPLE OF OPERATION

HOWDEN BUFFALO manufacture the comprehensive range of ENGART wet dust extractors for the removal of airborne dust. The standard range consists of six models, from 18" (460 mm) to 36" (915 mm) diameters offering performances from 2.8m<sup>3</sup>/s to 15m<sup>3</sup>/s. This range of dust extractors has been the result of our continuous product development over more than 25 years. Our ability to design and adapt our products to customers specification is well known and accepted within the industry, worldwide.

### DESIGN FEATURES

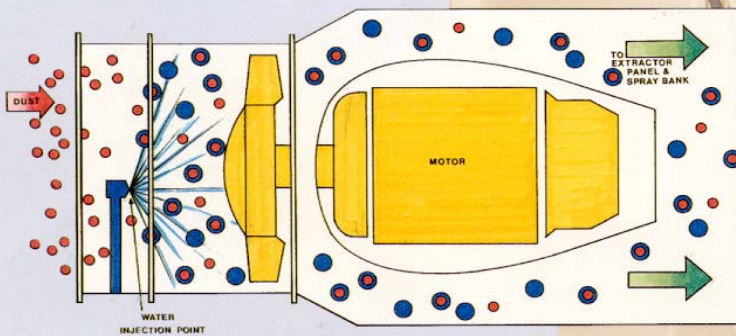
- High collection efficiency
- Low pressure drop
- Low power consumption
- Low maintenance costs
- Compact
- Ease of operation



# 1

### Summary

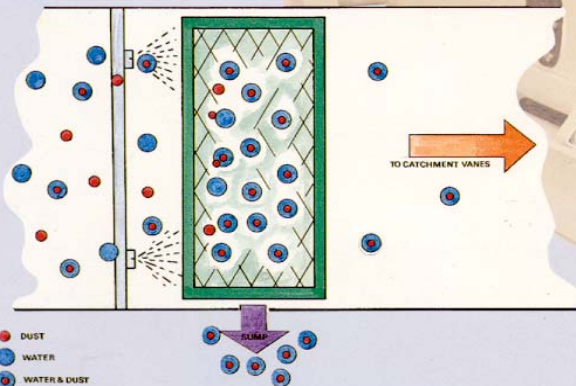
Dust and air is drawn into the dust extractor where water is injected. In the dust extractor, dust is transferred from the air into the water. The water is then removed from the airstream, leaving a dust free exhaust.



# 2

### Water Injection

Dust laden air is drawn into the fan where it is mixed with finely atomised water discharged from water spray nozzles. The dust laden air is "wetted" as it passes through the fan impeller.



# 3

### Extractor Panel

From the fan the air/dust/water mixture passes through a special rectangular extractor panel. The dust particles are separated from the airstream within the panel. The extractor panel is continually washed by the action of a multi nozzle spray bank.

It has long been accepted that airborne dust is a nuisance and a danger to health. The respirable element of that dust will enter operators lungs, and with prolonged exposure, can cause lung disease. Documented figures show that HOWDEN BUFFALO'S Dust Extractors have made a significant contribution to the reduction of lung related diseases.

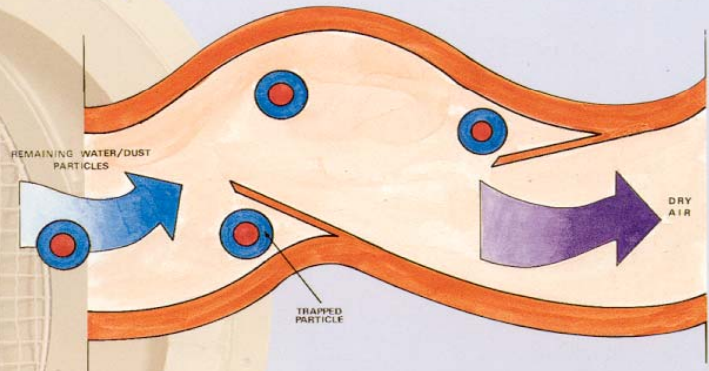
#### TYPICAL APPLICATIONS

- Mine development headings
- Crusher stations
- Conveyor transfer points
- Tunnel drivages

**4**

#### Catchment Vanes

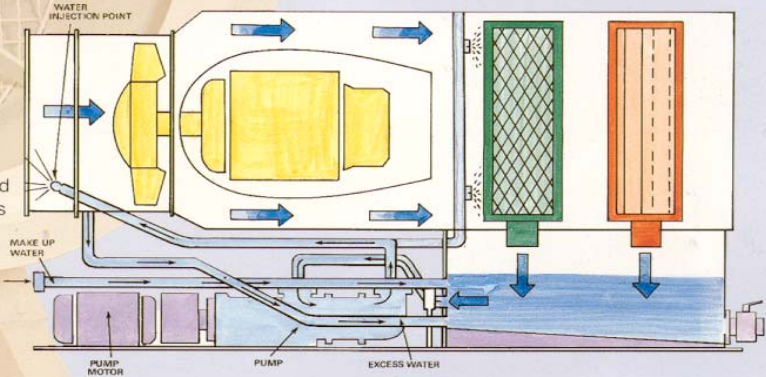
Excess water and dust mixture that has not drained away in the extractor panel is collected by "Catchment Vanes", ensuring that there is no water carry over from the unit.



**5**

#### Water Recirculation

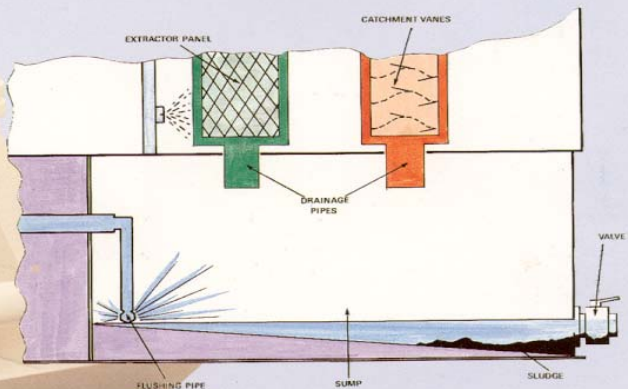
Units are fitted with water recirculation where 1) water supply is short, 2) large volumes of water cannot be accommodated in the process. Water recirculation systems are usually bolted directly to the dust extractor (as shown). In special cases recirculation may be remote. Dust is allowed to accumulate as a sludge in the bottom of the recirculatory tank. Water is recirculated by means of a mono pump.



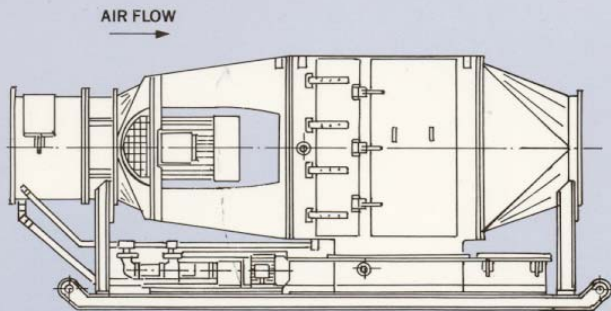
**6**

#### Tank Cleaning

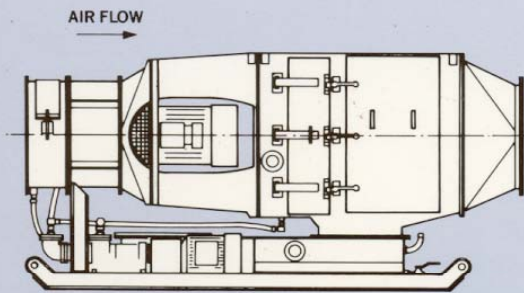
Accumulated sludge is discharged from the settling tank through a large drain valve, the opening of which automatically allows clean make-up water to enter through the ball float valve. This water is directed along the floor of the tank, allowing emptying and flushing to be carried out in a single operation.



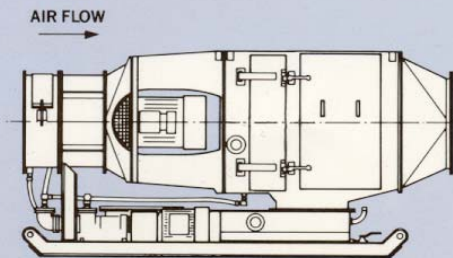
**NOTE:** Without the recirculatory system, the unit will require a constant flow of water, in line with that shown in the specification. It is also necessary to occasionally wash down the extractor panel. A hosepipe is fitted to the dust extractor for this purpose. The panel should be cleaned when light cannot be seen shining through.



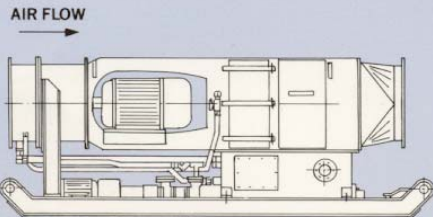
MODEL 36



MODEL 30



MODEL 24



MODEL 18 Minidust

## Basic Selection Data

<i>Code</i>	36 MRDE/RC/Std.
<i>Volume Flow</i>	15m <sup>3</sup> /s
<i>Length</i>	4611 mm
<i>Width</i>	1682 mm
<i>Height</i>	2225 mm
<i>Weight</i>	5000 kg.

<i>Codes</i>	30 MRDE/RC/HC 30 MRDE/RC/Std.
<i>Volume Flow</i>	10m <sup>3</sup> /s (HC) 7.6m <sup>3</sup> /s (Std.)
<i>Length</i>	3660 mm
<i>Width</i>	1260 mm
<i>Height</i>	1740 mm
<i>Weight</i>	HC 2900 kg. Std. 2750 kg

<i>Codes</i>	24 MRDE/RC/HC 24 MRDE/RC/Std.
<i>Volume Flow</i>	5m <sup>3</sup> /s (HC) 4.1m <sup>3</sup> /s (Std.)
<i>Length</i>	2997 mm
<i>Width</i>	976 mm
<i>Height</i>	1345 mm
<i>Weight</i>	HC 1700 kg. Std. 1600 kg.

<i>Code</i>	18 MRDE/RC/Std.
<i>Volume Flow</i>	2.8m <sup>3</sup> /s
<i>Length</i>	2743 mm
<i>Width</i>	960 mm
<i>Height</i>	958 mm
<i>Weight</i>	850 kg.



### HOWDEN BUFFALO

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