

TECHNICAL DESCRIPTION, NEDERMAN TELESCOPIC

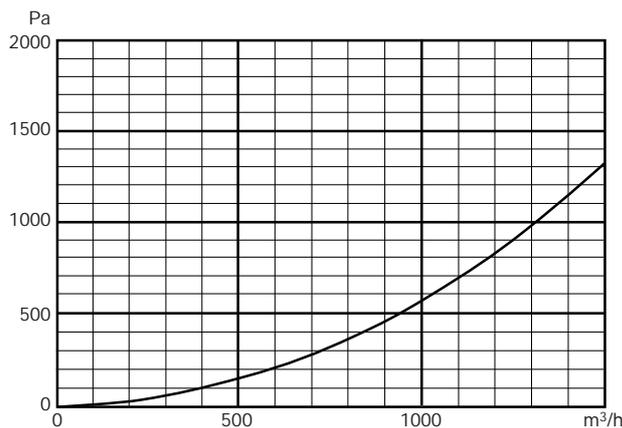
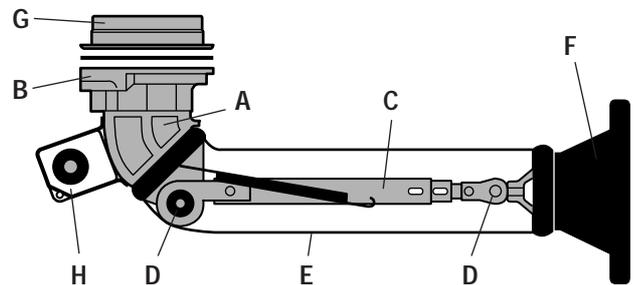
GENERAL DESCRIPTION

The Telescopic Extractor Arm is designed for use in small workspaces over benches and in welding booths where fume extraction must be accessible, effective and easily adjustable. The spring-loaded arm, together with a balanced telescopic action, makes this extractor extremely easy to use in confined spaces.

COMPONENTS

The Telescopic Arm has the following main components:

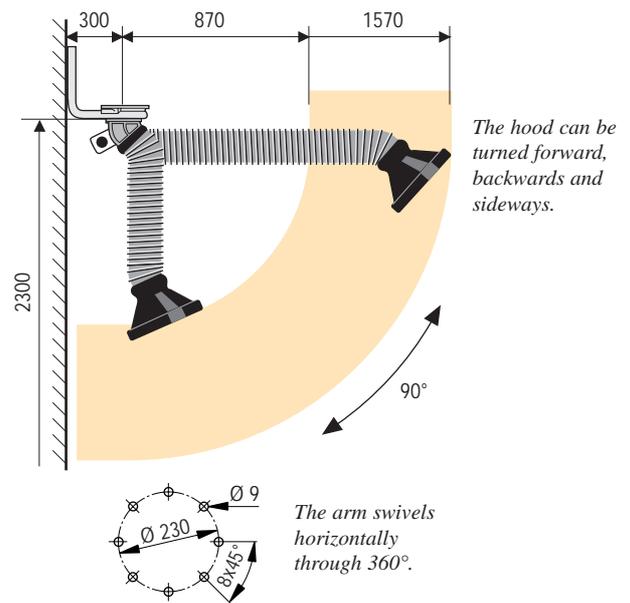
- A** 360° swivel elbow.
- B** Support flange.
- C** Internal support.
- D** Pre-set joints with wear discs, can be readjusted if required.
- E** Wire-reinforced PVC hose, 160 mm diam. Maximum operating temperature is 70°C.
- F** Metallic hood, Ø 300 mm. Optional light package available.
- G** Counter flange for ventilation duct, 150/160 mm dia. Not required with fan.
- H** Adjustable balance block used as a counterweight to the telescopic arm, which means that the hood always remains exactly where it is positioned.



PRESSURE DROPS

The graph shows the variation in pressure drop in relation to the air volume for the telescopic arm in normal working position. **An air volume of 800 m³/h is recommended for each arm, for normal welding.** When choosing a fan, refer to the drop in pressure at this air volume.

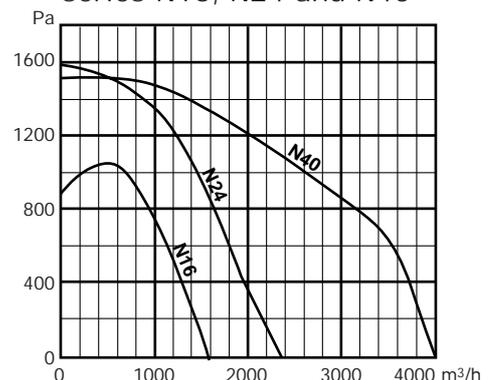
DIMENSIONS



TECHNICAL DATA

Recommended air flow	800 m³/h
Ducting diameter	150/160 mm
Connection diameter	150/160 mm
Weight	12 kg
Temperature tolerance	70°C
Noise level at hood	65 – 70 dB(A)
Material hose	Wire-reinforced PVC
Material swivel elbow	Aluminium
Part No. 500531	Telescopic, with metal hood, without damper
Part No. 500831	Telescopic, with metal hood, with damper
Part No. 501031	Telescopic, with plastic hood, with damper

Fan diagram for fans series N16, N24 and N40



FAN SIZING Individual fan

Ideally, every telescopic arm should have an individual fan. Experience proves that this is preferable because the fan is individually matched to the arm, with regard to the air volume, thus ensuring a safe and dependable system. Add the pressure drop in the duct system, then select the fan according to the fan diagram. Recommended air volume is 800 cubic metres per hour.

DIMENSIONING

System with several telescopic arms

In a system where several arms are connected to the same fan, large temporary variations in pressure drop can

occur. For this reason, it is advisable to limit the number of arms per fan. Note: If the arms are to be installed in new workshops, they may be included as part of the general ventilation. In this case, all hood dampers must be left permanently open.

An example of fan sizing for a system with several arms is given below. Please note that all calculations depend on how many arms operate simultaneously, and that the information is only valid for approximate sizing. **Note:** Always check that incoming air to the workshop is sufficient.

1. Draw a simple diagram

showing the proposed location of each extractor.

2. The total air flow required.

800 cubic metres per hour for each arm. Add the air volume for each arm (with dampers open) in simultaneous operation (in this example 2 arms).

3. The necessary negative pressure

Determine the necessary negative pressure according to the following:

- Read off the drop in pressure for the extractors on the diagram on the preceding page, at 800 cubic metres per hour.
- To this reading, add 5 Pa for every metre of duct, measured from the arm furthest away from the fan.
- Add a further 15 Pa for every 90° bend.

4. Select fan

Select fan according to items 2 and 3.

5. Size the duct

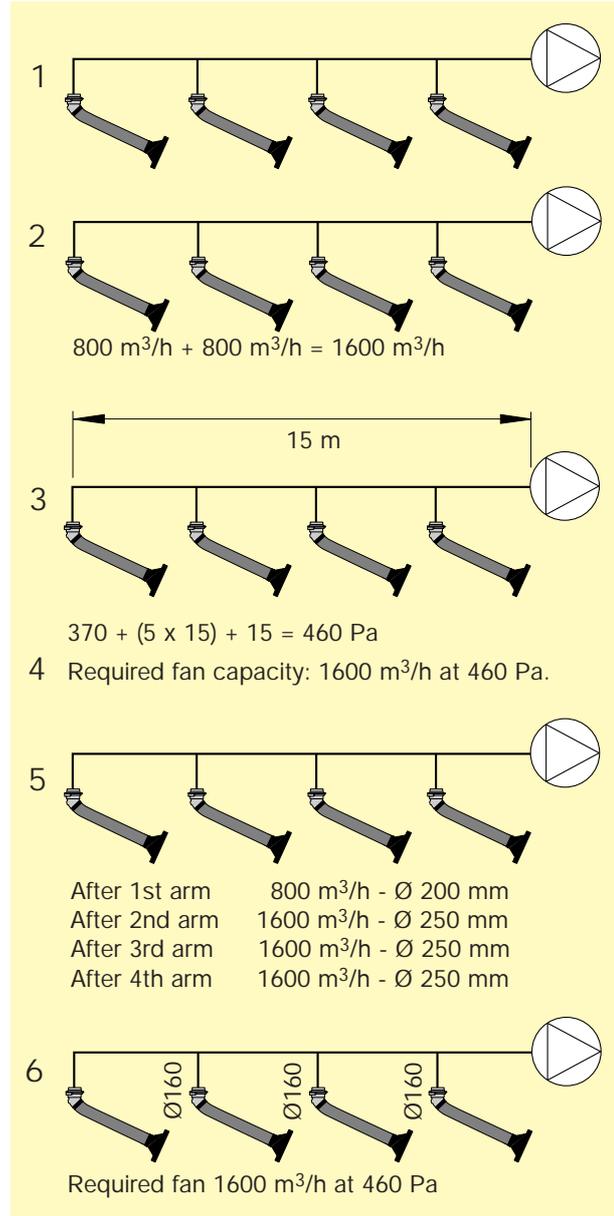
Size the duct according to the following values:

Air volume m ³ /h	Duct diameter mm
– 700	160
700 – 1400	200
1400 – 2500	250
2500 – 4000	315
4000 – 6000	400
6000 – 10000	500

Total the air volume from each fume extractor, and read off the duct size from the above table.

6. Fan and duct specification

The connecting pipe from the fume extractor to the main duct should be a minimum of 160 mm in diameter.



Nederman®

Right reserved for modification of design and measurements.

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