PARSUM IPP 80-P
Inline particle measuring probe

The IPP 80-P was developed as a probe for the inline measurement of the particle size distributions of powders, granulates and pellets in pharmaceutical fluidised bed, high-shear and similar processes. Wherever there are demanding requirements with regard to cleanliness, cleanability and hygiene, this is a valuable PAT tool for implementing modern production processes based on the quality-by-design principle.

When used in combination with a measuring PC including measuring software, the IPP 80-P makes it possible to determine the current particle size distribution (e.g. Q^0, Q^3) and the attributes of this distribution (x^{10}, x^{50}, x^{90}, etc.) in the particle streams of potentially explosive process chambers in zones "0"/"20".

Its dimensions and accessories make it compatible with the predecessor model IPP 70. It is also made completely of stainless steel, and has self-monitoring functions. The entire measuring system consists of the IPP 80-P, the process interface, the barrier box for Ex-zone separation and a measuring PC with measuring program. The measured results can be made available to a higher-level control system via optional interfaces.

Technical details

Particle size measurement range	50...6000 µm
Particle velocity measurement range	0.01...50 m/s
Measuring rate	Up to several thousand particles per second
Products	Powder, pellets, granulates, ...
Process temperature/pressure	-20°C to +100°C / <4bar
Material, in contact with product	Stainless steel (316L), sapphire, epoxy resin
Probe tube dimensions (length x diameter)	280 × 25 mm (optionally 380 × 25 mm)
Electronics - housing dimensions (diameter x depth)	90 x 60 mm
Electronics - housing temperature	- 10°C to 60°C
Housing protection class	IP65
Light source	Laser (laser class 1)
Interfaces	OPC-Server, TCP/IP-Server, 4...20 mA
ATEX certificate	IBExU14ATEX1247
Marking of the Probe IPP70-Se	II 1/2G Ex ia op is IIB T4 Ga/Gb II 1/2D Ex ia op is IIIC T125°C Da/Db
Marking of the Barrier-box IPP70-Se-B	II (1)G [Ex ia Ga] IIB II (1)D [Ex ia Da] IIIC

Accessories (process interface)

D24 inline disperser	For high load/high fine content – particles up to 2000 µm, clearance 3.8 mm
D12 inline disperser	As for D24, but also for particles >2000 µm, clearance 7.5 mm
SZ11, SZ20 - cleaning cells	To keep the probe optics free of contamination without active dilution of the particle flow (assuming a low particle load)
Compressed air unit	Compressed air supply for the probe when using dispersers or cleaning cells

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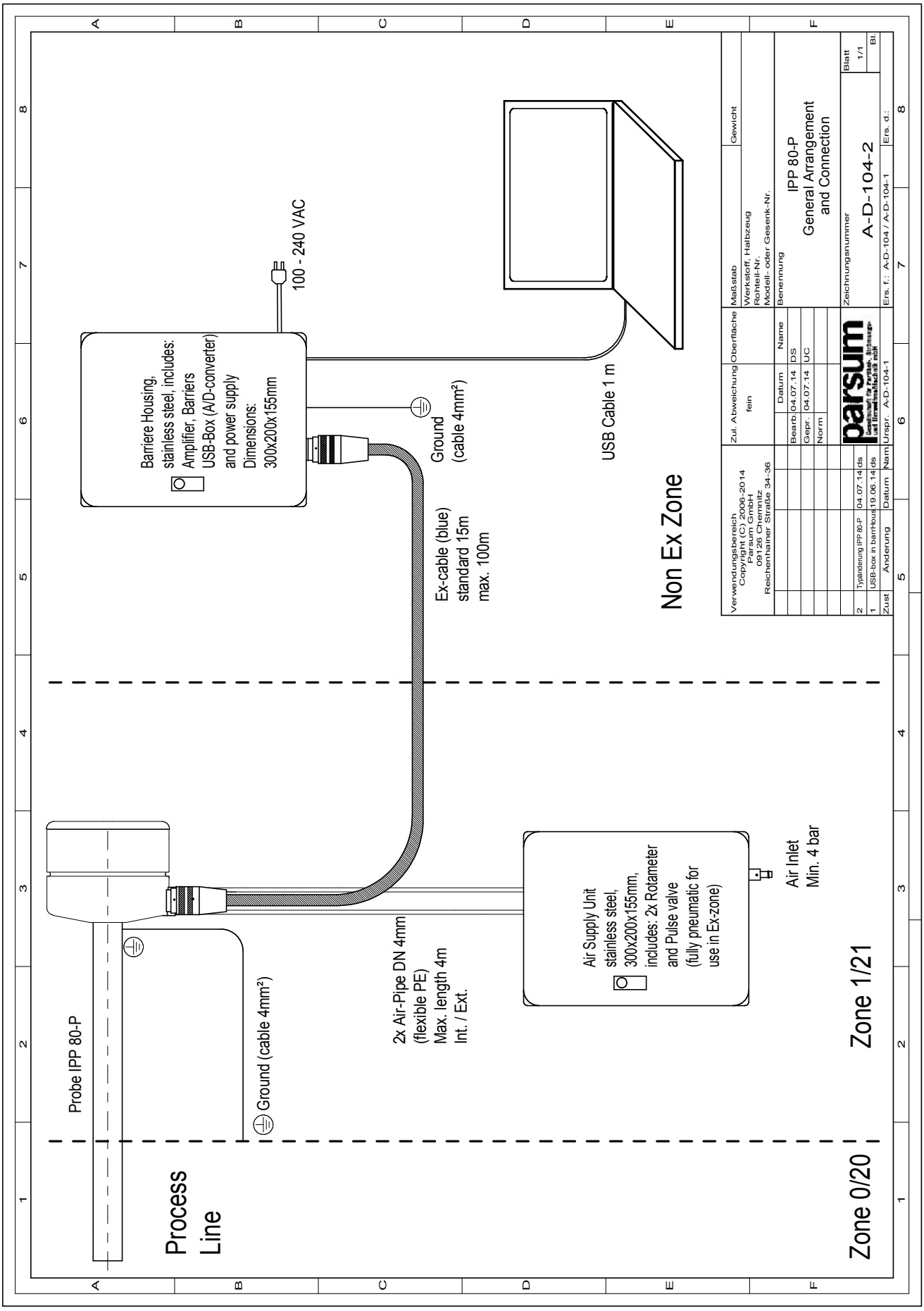
IPP 80-P System



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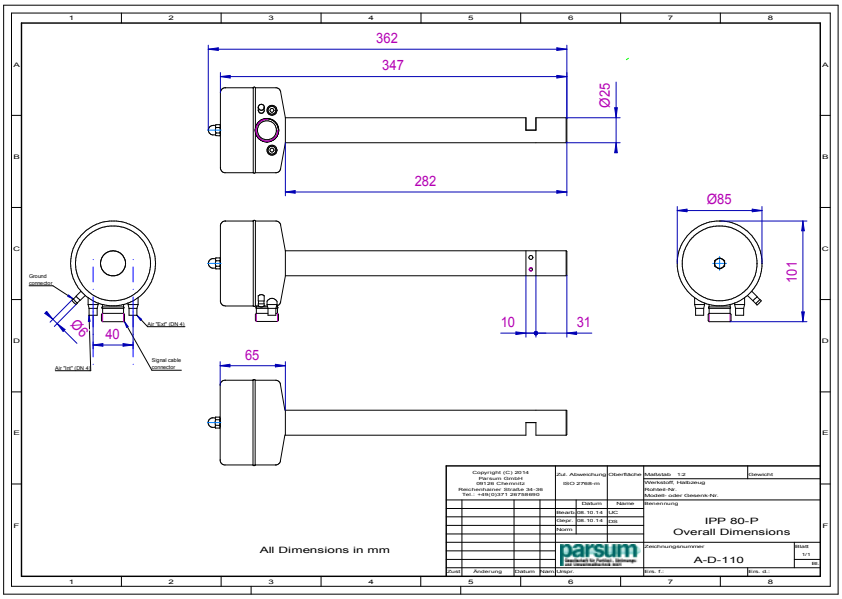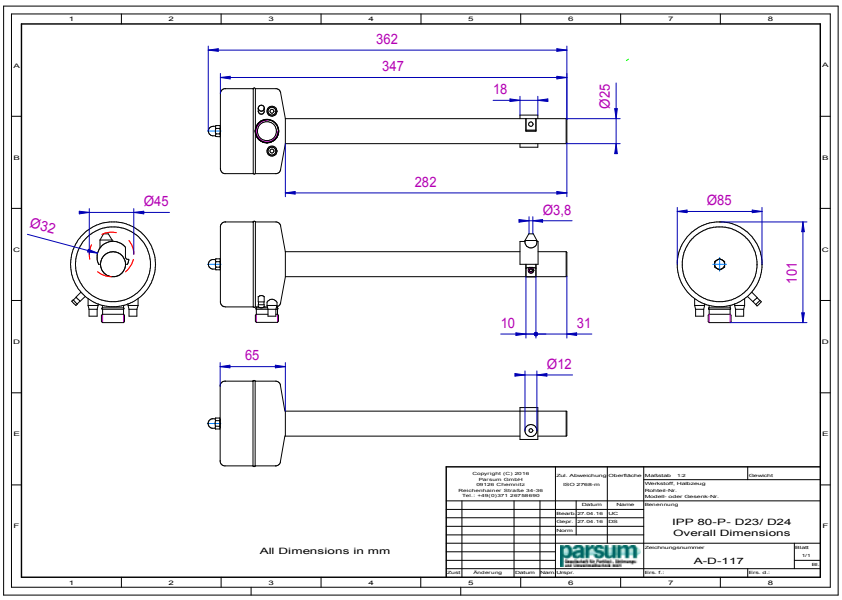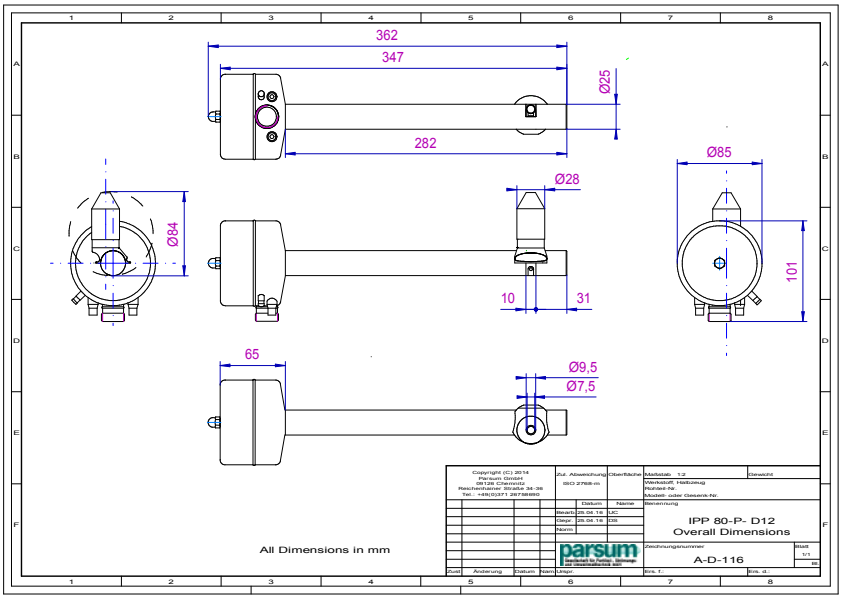
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