

# Carrier-gas-discharging-unit TGD20 for Simoloyer® CM08 & CM20

## in general, mission & challenge

TGD carrier-gas-discharging-unit allows to transport and insitu separate/classify multiphase flows in dry powder processing under controlled condition under inert gas after preceding evacuation. Carrier-gas-assisted-discharging is designed to support critical discharging/unloading process particularly after HKP (MA, HEM, RM) in the Simoloyer® after batch-operation mode. In 2006, TGD represented the first commercialized component group for auto-batch and semi-continuous HKP-operation at that time with conventional SKV-turbines. Later, Zoz-turbines SKZ improved evacuation substantially. In result, TGD can increase powder yield and product quality substantially, since the severe change of B/P-weight-ratio during discharging is effectively addressed.



## advanced

Carrier-gas assisted discharging for Simoloyer® with standard grinding units (non-continuously), here CM08 and CM20

- higher powder yield in shorter time at lower rotational speed;
- less kinetic impact at discharging (lower speed, shorter time);
- semi-automatic process:
  - controlled carrier gas flow in closed or open system;
  - pressure-measurement and gas-cooling on a mobile unit;
  - carrier gas fully recycled, inert atmosphere;
  - standard air-lock DN40 can be adapted (with glass-container).

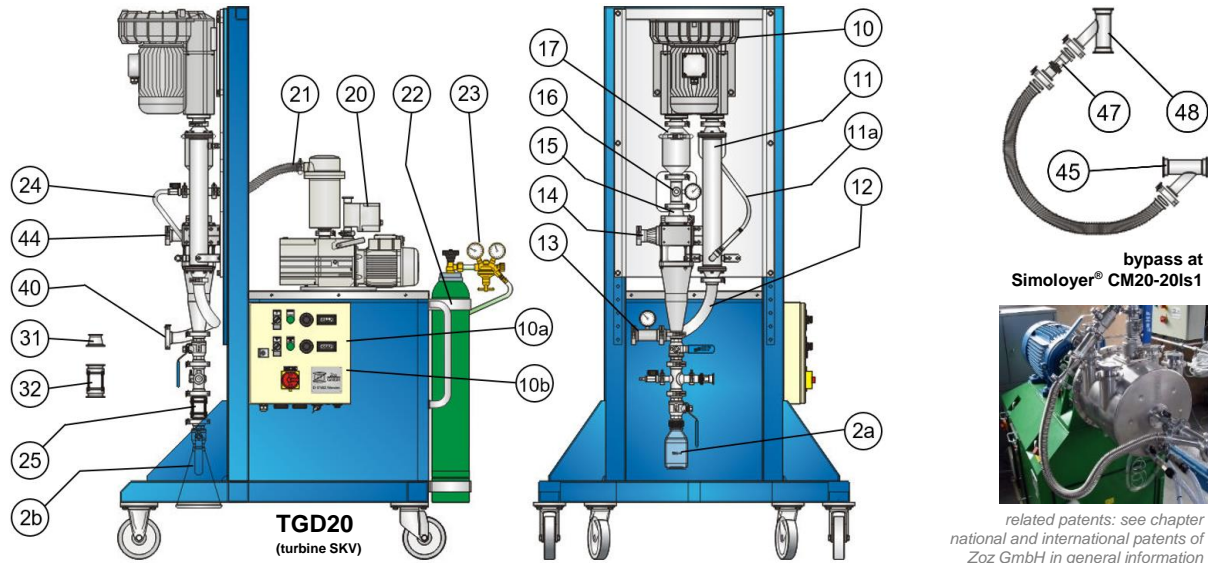
## options

- standard air-lock DN40/container adapted with opt. 25 (> page 02);
- air-lock DN50 adapted with opt. 30-31 (+32 for valve container);
- bypass (45-49) for different gas flow in grinding unit and cyclone;
- extended Simoloyer® cooling block for heat exchanger;
- rotary vane feeder extension for electrical control (10b);
- vacuum supply (preceding evacuation) upon unit-plateau (20-21);
- gas supply for inert gas fixed at cart-rear (22-23);
- communication of gas-drive by MALTOZ®-software.

## dimension

L x B x H [mm]	1235 x 1200 x 2065
net weight (mobile unit only)	125 kg
net weight (incl. components, standard)	240 kg
nominal power (total)	2.2 kW
power supply	400V, 3 phase, 10A





ID	unit	function	ID	unit	function
01	Simoloyer® CM08/20	High Kinetic Processing (MA/HEM/RM)	22	bottle-rack 10L	support for gas supply 10 liter
02	Simoloyer® air-lock	adapted for powder-collection under controlled condition	23	manometer 10l	control of gas supply at air-lock
05	TGD20a	mobile carrier-gas-discharging- unit	24	adapter and piping DN16-G3/8-NW09k	piping gas-supply +/- air-lock
10	side-channel-turbine SKV/Z180-DN40	carrier gas drive	25	transparent pipe module GR-DN40x100	observation of discharging at air- lock if using valve container
10	electronic cabinet (add-on to Maltoz®)	carrier gas drive, control of pump and rotary vane feeder (option)	30	adapter KF-A DN50-DN40x45	transfer of multiphase-flow out of Simoloyer® if using air-lock DN50
11	heat exchanger WT40-500	gas flow cooling (elevated temp. during de- and compression)	31	adapter KF-A DN50-DN40x45	transfer of multiphase-flow out of cyclone if using air-lock DN50
11a	piping WT*	connected to cooling block Simoloyer® CM08/20 (option)	32	transparent pipe module GR-DN50x125	observation of discharging process at air-lock if using air-lock DN50
12	pipe bend RBA-DN40-90°	transfer of multiphase-flow	40	flex-metal-tube DN40x750	piping TGD20 +/- Simoloyer® side-port P02
13	pressure-gauge DMD16	record of flow-parameters, gas- flow-outlet	41	Adapter KF-A DN40-DN16x50	transfer gas-flow into Simoloyer®
14	pilot cyclone ZK100-L	separation of powder material in multiphase-flow	42	pipe bend RBA-DN40-90°	transfer of multiphase-flow out of Simoloyer®
15	adapter KF-A DN50-DN40x45	transfer of gas-flow	43	pipe bend RBA-DN40-45°	transfer of multiphase-flow out of Simoloyer®
16	KF-calming pipe DN40-16-25-40-c	cross-tube for air-lock evacuation and gas-supply	44	flex-metal-tube DN40x500	piping Simoloyer® main-port P01- //-TGD20
16a	pressure-gauge DMD16	adapted at 16, record of flow- parameters	45	KF-junction-tube DN40-25-40-45°	junction for bypass out of gas-flow
17	filter capsule FC-MF100	protection-filter for carrier gas drive	46	flex-metal-tube DN25x750	piping bypass
20	vacuum pump DUO 10	air-lock operation	47	valve adapter DN25-G1/2-DN25	flow-control of bypass
21	flex-metal-tube DN25x500	piping vacuum-pump +/- air-lock	48	KF-junction-tube DN40-25-40-45°	junction for bypass into multiphase-flow
			49	pipe bend RBA-DN40-45°	transfer of multiphase-flow out of Simoloyer® if using bypass

