

4 GAS BURNER (Low NOx Design)

burner type
burner draft loss
each consisting of:

NAB 16,5 - G
25 mbar

- 1 front plate incl. air register and secondary air tube
- 1 primary air tube with gas plenum chamber and holes for flame viewing head, ignitor and inspection
- 1 diffuser tube with diffuser
- 1 set of adjustable and replaceable gas lances with nozzles
- 1 set of pressurised furnace fittings
- 1 divided windbox in mild steel and manual adjustable air damper
- 1 air damper with multi vanes and limit switches
- 1 pressure indicator compl. with gauge valve
- 1 bracket for taking up the power cylinder for air damper

IGNITOR4 gas electric ignitor

each consisting of:

- 1 ignitor gun compl. with transformer and ionisation rods
- 1 ignition gas control fitting
- 1 ignition air control fitting

4 SET OF VALVES AND INSTRUMENTS FOR IGNITION GAS AT THE BURNER, DN 1/2" PN 16

each consisting of:

- 1 ball valve
- 2 solenoid valves
- 1 flexible hose in stainless steel with stainless steel braid

4 SET OF VALVES AND INSTRUMENTS FOR IGNITION AIR AT THE BURNER, DN 1" PN 6

each consisting of:

- 1 ball valve
- 1 flexible hose with stainless steel braid

4 SET OF VALVES AND INSTRUMENTS FOR COOLING AIR AT THE BURNER

each consisting of:

- 1 ball valve
- 1 flexible rubber hose to UV scanner

4 SET OF VALVES AND INSTRUMENTS FOR INSTRUMENT AIR AT THE BURNER

each consisting of:

- 1 pneum. power cylinder for air damper
- 1 instrument air hose
- 2 air restrictors for adjusting velocity of the power cylinder
- 2 three-way solenoid valves with double coil
- 2 ball valves
- 3 three-way solenoid valves for pneum. gas valves
- 2 quick vent valves
- 1 air restrictor for adjusting the opening velocity of the pneum. gas valve
- 3 ball valves

4 SET OF VALVES AND INSTRUMENTS FOR GAS AT THE BURNER, DN 150 PN 16

each consisting of:

- 1 manual damper
- 1 strainer
- 1 ball valve for venting
- 1 pneum. quick close damper group, consisting of:
 - 2 pneum. quick close dampers
 - 1 pneum. piston valve DN 25 with stainless steel expansion bellow for venting
- 1 pressure indicator incl. valve
- 1 stainless steel compensator
- 1 gas leakage tester

4 SET OF VALVES AND INSTRUMENTS FOR NITROGEN AT THE BURNER, DN 25 PN 16

each consisting of:

- 1 check valve

- 1 ball valve
- 1 hose coupling

BURNER VALVE SKID

- 4 compl. prefabricated burner valve skid

with interconnecting pipework. All valves for gas, nitrogen and instrument air are mounted on a steel frame

FLAME DETECTION EQUIPMENT

4 set of flame detectors
each consisting of:

- 1 flame detector self checking design
- 1 ionisation detector for the gas electric ignitor
- 1 swivel mount for taking up the flame detector

1 SET OF VALVES AND INSTRUMENTS FOR IGNITION GAS IN THE SUPPLY LINE, DN 15 PN 16
consisting of:

- 1 ball valve
- 1 safety quick close valve
- 1 pressure indicator incl. valve
- 1 pressure switch incl. valve
- 1 safety blow off valve

1 COOLING AND IGNITION AIR SUPPLY SYSTEM

consisting of:

- 2 air fans incl. base plate for motor

capacity each	300 Nm ³ /h
discharge pressure stat.	100 mbar
speed	2900 rpm
power consumption	3 kW
- 2 air filters
- 2 electric motors for 400 V, 50 Hz

capacity	4 kW
speed	2900 rpm
protection class	IP 54
- 2 closable non return dampers DN 80 PN 6
- 1 pressure indicator incl. valve
- 2 pressure switches incl. valve

2 silencers

1 SET OF VALVES AND INSTRUMENTS FOR FUEL GAS IN THE SUPPLY LINE, DN 250 PN 16

consisting of:

- 1 manual damper
- 1 pressure indicator incl. valve
- 1 gas strainer
- 1 pneum. quick close damper
- 3 gas pressure switches with high pressure contact incl. valve
- 3 gas pressure switches with low pressure contact incl. valve
- 1 temperature indicator
- 1 manual control valve for venting DN 100 PN 16
- 1 pneum. quick close valve for venting DN 100 PN 16
- 1 starting up control valve DN 80 PN 16
- 1 gas pressure switch with high pressure contact incl. valve for starting up period
- 1 ball valve up stream starting up control valve DN 80 PN 16
- 1 ball valve down stream starting up control valve DN 100 PN 16
- 1 gas flow meter incl. 2 transmitter (turbine type)
- 1 pneum. gas flow control damper incl. actuator and positioner

1 SET OF VALVES AND INSTRUMENTS FOR NITROGEN IN THE SUPPLY LINE, DN 25 PN 16

consisting of:

- 1 ball valve
- 1 check valve
- 1 hose coupling

1 SET OF VALVES AND INSTRUMENTS FOR INSTRUMENT AIR IN THE SUPPLY LINE, DN 15 PN 16

consisting of:

- 1 manual shut off valve
- 1 pressure indicator incl. valve
- 3 pressure switches incl. valve
- 1 set of three-way solenoid valve for all pneum. valves in the supply line incl. ball valve for each solenoid valve

VALVE SKID

consisting of:

- 1 compl. prefabricated valve skid

with interconnecting pipework. All valves for gas, nitrogen and instrument air are mounted on a steel frame

- 1 compl. prefabricated valve skid
with interconnecting pipework. All valves for instrument air are mounted on a steel frame
- 1 compl. prefabricated cooling air fan station

BURNER MANAGEMENT SYSTEM

Siemens Type S7 - 300F

free programmable self checking plug-in units

the system is adapted for firing equipments (TÜV-certifications)

all inputs and outputs are indicated by LED 's if energized

- 1 control panel solid state with all necessary fuses processing units, voltage units, supply units, comparator units, input and output units and if necessary with transfer relays for interlocking and controlling of boiler and single burners, compl. wired up on terminal rows incl. software and final functional test in manufacturer 's workshop

protection class IP 54

AC voltage supply 230 V, 50 Hz

- 2 local panel for local starting and stopping of the single burners incl. all necessary signal lamps and push buttons, compl. wired up on terminal rows

protection class IP 54

M&S documentation: standard-program ELCAD

EXCLUSIONS

1. burner throats
2. air fan and ducts incl. flow meter and flow control
3. pipe material outside of the prefabricated valve sets
4. cables compl.
5. erection mechanical
6. erection electrical
7. insulation
8. flue gas recirculation system