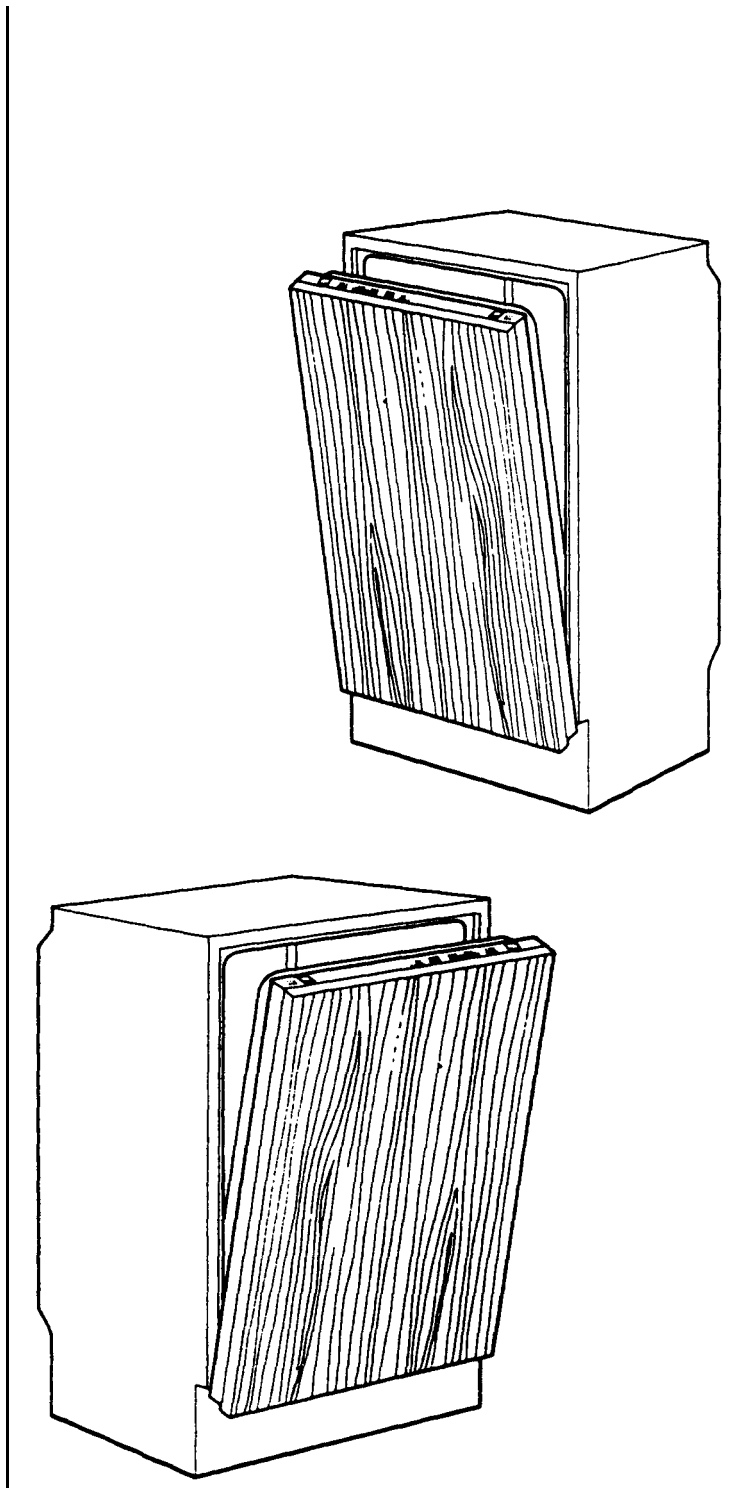




Dishwashers 1998

New Structure

IGV 643.3

IG 643.3

IG 646.2

IG 446.0

Service Manual: H7-410-03-02-A

Responsible: D. Rutz
Tel.: (0209) 401-733
Fax: (0209) 401-743
Date: 25.11.1999

KÜPPERSBUSCH HAUSGERÄTE AG
Kundendienst
Postfach 100 132
45801 Gelsenkirchen

Contents

1. Function features 4

2. Circuit diagrams 5

2.1 Technical data IGV 643.3 and IG 643.3 7

2.2 IGV 643.3 and IG 643.3 8-11

2.3 Technical data IG 646.2 12

2.4 IG 646.2..... 13-15

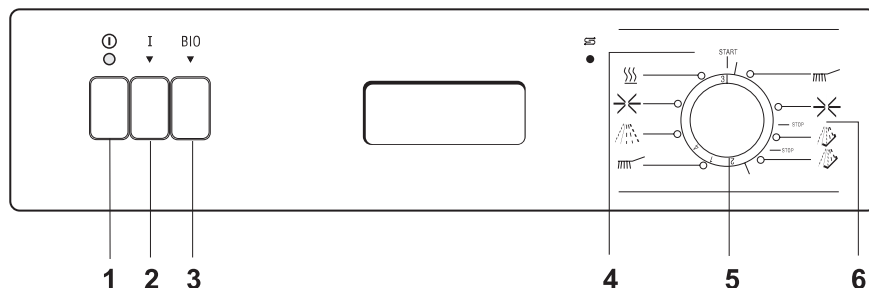
2.5 Technical data IG 446.0 16

2.6 IG 446.0..... 17-19

1. Function features

Control using the control panel

Control panel IG 643 / 646 (dishwashers with electromechanical programme controller)



1. ON/OFF button

- ◆ Switches the appliance ON and OFF.
- ◆ Prepares the appliance for the selection of the wash programme.
- ◆ An LED comes on to indicate that the appliance has been switched on.

2. I button

- ◆ If this button is pressed during an intensive wash programme, the programme is intensified even more. (The normally cold prewash programme is then executed at 55°C and a second cold prewash phase is added.)

3. BIO button

- ◆ If this button is pressed, the cleaning temperature is reduced from 65°C to 55°C.
- ◆ Special programme optimised for enzyme-containing compact detergents.

4. Setting marks

- ◆ The wash programme you want must point to this mark.

5. Programme selection knob

- ◆ In order to set the wash programme you want, the knob of the programme selector must be turned (clockwise) until the letter (or number) assigned to the wash programme you want is exactly under the setting mark (4).

6. Programme run display

- ◆ Indicates the various phases of the wash programme as they are being executed.
- ◆ Each of the following phases is shown as a symbol:

PREWASH/SOAK
CLEANING PHASE
COLD RINSE
HOT RINSE
INTERMITTENT DRYING

2. Circuit diagrams

IGV 643.3

9118410 - 28

IG 643.3

9118410-22...25

IG 646.2

9118930-01...03 and 10

IG 446.0

9117230-37...43

Legend

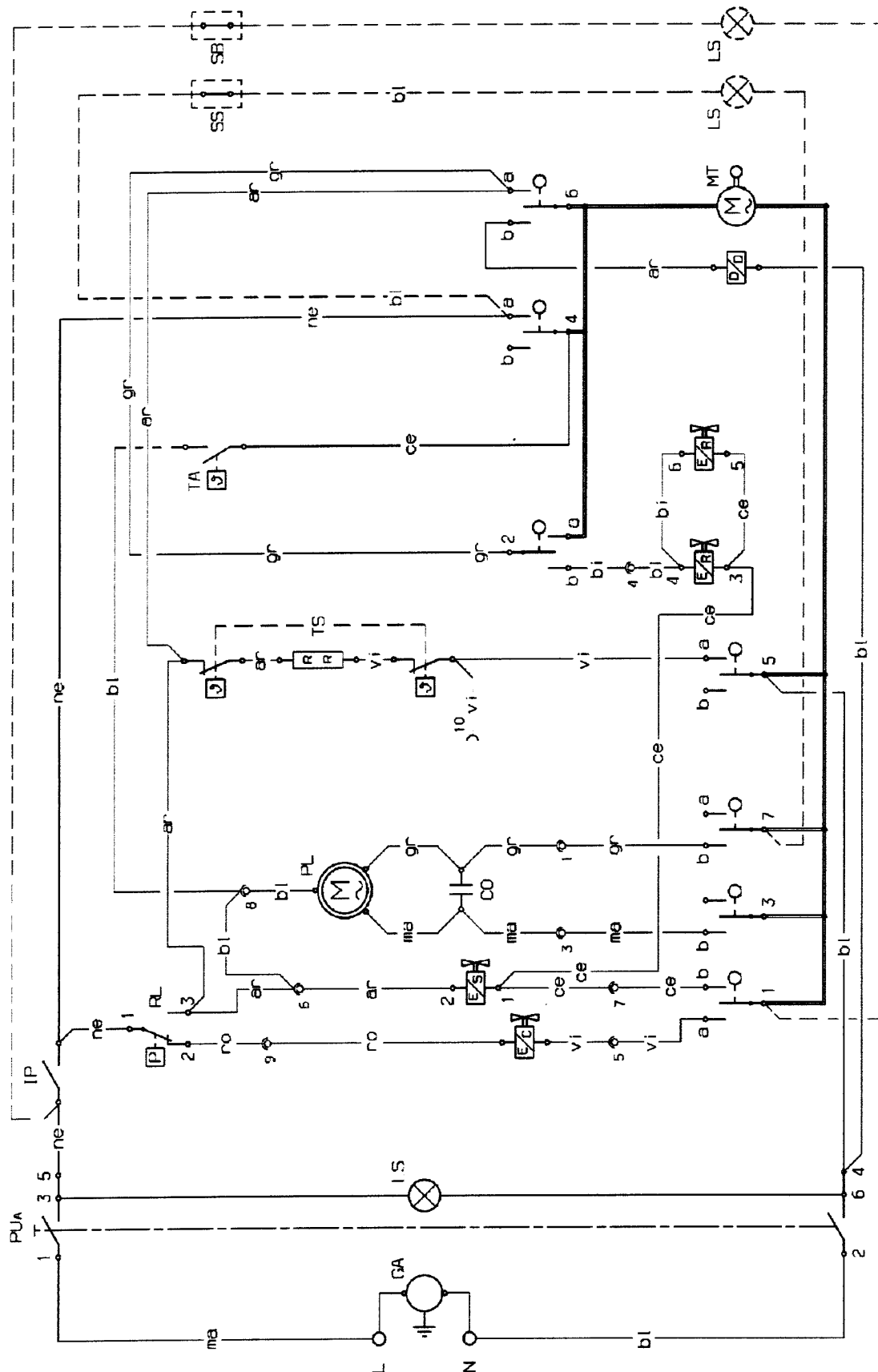
PLUG-IN CONNECTORS

ar	=	orange
bi	=	white
bl	=	blue
ce	=	light blue
gi-ve	=	yellow/green
gr	=	grey
ma	=	brown
ne	=	black
ro	=	pink
vi	=	violet
AA	=	Overflow protection device
CO	=	Capacitor
DA	=	Protection against leakage
DB	=	Container - rinse aid
DD	=	Detergent dispenser
EC	=	Solenoid valve for the water intake
ER	=	Solenoid valve for the regeneration
ES	=	Reset solenoid valve
GA	=	Radio interference suppression
IP	=	Door switch
KM	=	Electromagnet
LS	=	Control lamp
MR	=	Terminal board
MT	=	Motor of the programme controller
MV	=	Fan motor
PL	=	Circulating pump
PL/S	=	Circulating pump/drainage pump
PS	=	Drainage pump
PU	=	Buttons on the operation fascia
RA	=	Overflow protection device
RE	=	Programme controller relay
RL	=	Pressure switch
RP	=	Time switch
RR	=	Heater
SB	=	Rinse aid sensor
SD	=	Detergent sensor
SS	=	Salt sensor
ST	=	Temperature detector
TA	=	Thermostat H.T.
TAC/T	=	Tacho-generator
TB	=	Thermostat L.T.
TM	=	Thermostat M.T.
TS	=	Safety thermostat

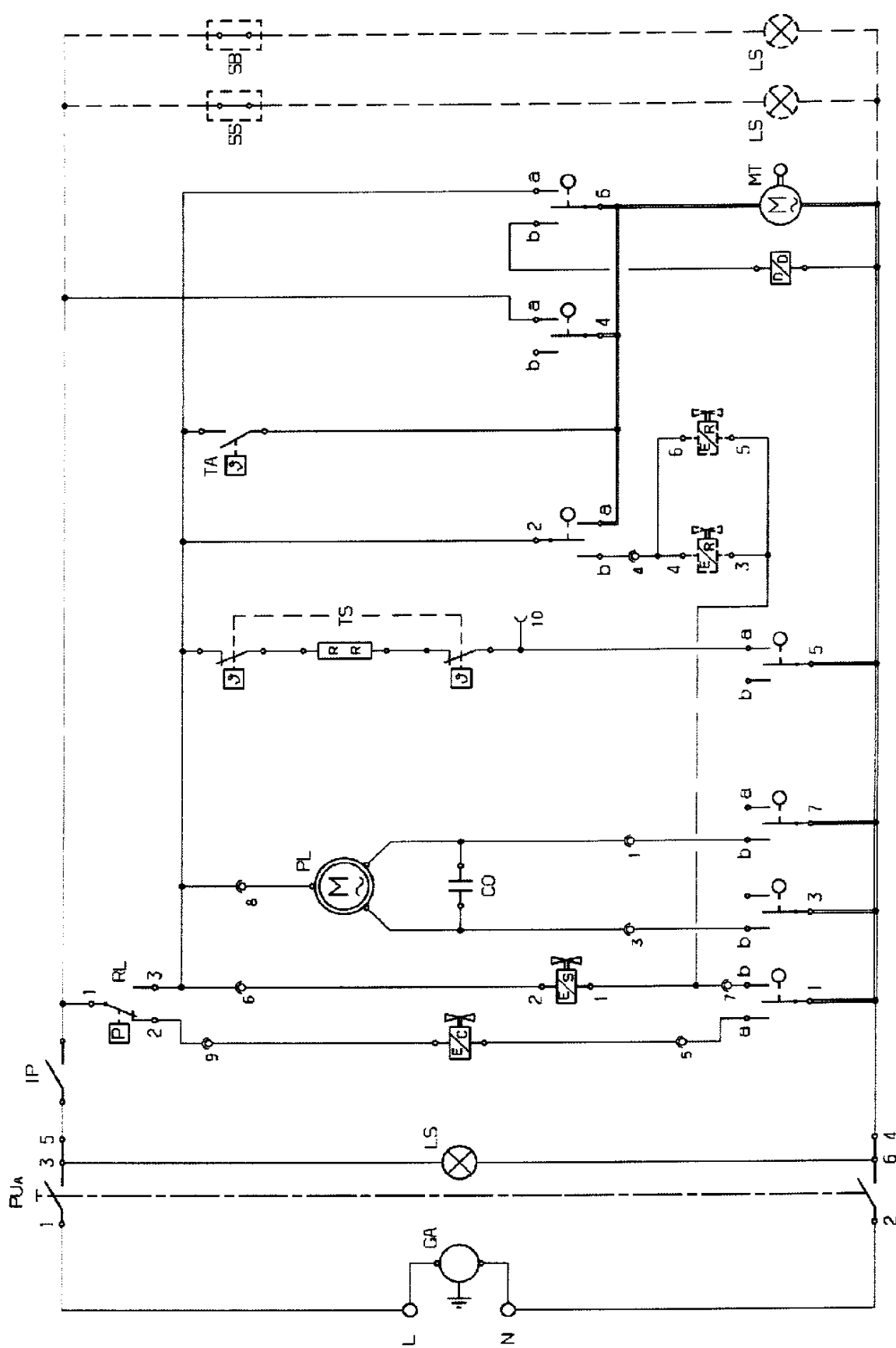
2.1 Technical data IGV 643.3 - IG 643.3

		IGV 643.3	IG 643.3
General features			
Operating voltage	V	230	230
Dimensions (H x W x D)	cm	82x60x57	82x60x57
Capacity (standard place settings)	N	12	12
Total power consumption	W	2300	2100
Water quantity in base pan (approx.)	l	5	5
Water pressure (max./min.)	N/cm ²	80/5	80/5
Detergent/rinse aid dispenser			
Dosing range	cm ³	1.2-5.0	1.7-6.5
Resistance	ohm	1500	1500
Heater resistor			
1st heating rod power consumption	W	2100	2100
Resistance	ohm	25	25
Timer			
Designation		D26330	D26320
IWMS softener			
Regeneration solenoid valve			
Coil resistance	ohm	4950	4950
Resin wash solenoid valve			
Coil resistance	ohm	4950	4950
Reset solenoid valve			
Coil resistance	ohm	4950	4950
Water intake valve			
Delivery rate	l/min	3 - 4	3 - 4
Coil resistance	ohm	3700	3700
Thermostat			
Temperature	°C	59	59
Colour coding		red	red
Safety thermostat			
Temperature	°C	75	75
Colour coding		violet/orange	violet/orange
Circulation pump/Discharge motor			
Insulation		F	F
Power consumption	W	158	158
Speed	rpm	2750	2750
Current consumption	A	0.69	0.69
Circulation coil	ohm	47.5	47.5
Discharge coil	ohm	70	70
Starting capacitor	V/μF	450/4	450/4

2.2 Programme controller IGV 643.3 and IG 643.3



Circuit diagram IGV 643.3 and IG 643.3



Programme run IGV 643.3

PROGRAMME START										★ = Intake time X = Heating time		SWITCHING TIME - FUNCTIONS	
Water intake valve	RESET valve	P.G.S. intake / T50° prewash	Regeneration valve	Circulation pump	P.G.S. intake	Thermostat 50°/40°	Heating	Discharge pump (optional)	Timer full	Detergent/rinse aid dispenser	Heating (optional)	Discharge pump	SWITCHING TIME / FUNCTION
													1 Drain and RESET 60"
													2 Intake and detergent 30"
													3 Intake and wash 30"
													4 Intake - wash ★ 120"
													5 Wash and heating X 30"
													6 Wash and RESET 30"
													7 Drain 60"
													8 Intake and wash 60"
													9 Intake - wash ★ 120"
													10 Drain and RESET 60"
													11 Intake 30"
													12 Intake and wash 30"
													13 Intake - wash ★ 120"
													14 Wash + RESET + regen. + heat. + rinse aid X 30"
													15 Wash + RESET + regen. + heat. - rinse aid 30"
													16 Wash and RESET and regeneration 7'
													17 Drain 60"
													18 STOP
													19 Intake and drain 60"
													20 Intake - wash ★ 120"
													21 Drain and RESET 60"
													22 STOP
													23 Drain and RESET 60"
													24 Intake 30"
													25 Intake and wash 30"
													26 Intake - wash ★ 60"
													27 Wash and heating (waiting time optional) (X) 30"
													28 Wash ★ 5,5'
													29 Drain and RESET 60"
													30 Intake and detergent 30"
													31 Intake and wash 30" (90" of B)
													32 Intake - wash ★ 120"
													33 Wash and heating X 60"
													34 Wash 7'
													35 Wash and RESET (and heating BIO/INTENSIVE) 120"
													36 Wash 120"
													37 Wash 120"
													38 Drain 60"
													39 Intake 30"
													40 Intake and wash - intake ★ 30"
													41 Wash and RESET 4'
													42 Pause (drain optional) 60"
													43 Wash (intake - wash optional) (★) 60"
													44 Wash and RESET 120"
													45 Drain 60"
													46 Intake 30"
													47 Intake and wash 30"
													48 Intake - wash ★ 120"
													49 Wash + RESET + regen. + heat. - rinse aid X 30"
													50 Wash + RESET + regen. + heat. + rinse aid 90"
													51 Wash and RESET and regeneration 120"
													52 Drain and RESET 60"
													53 RESET and regeneration 60"
													54 Heating and RESET and regeneration 30"
													55 RESET and regeneration 7,5'
													56 Heating 30"
													57 Pause 30"
													58 STOP

2.3 Technical data IG 646.2

General features

Operating voltage	V	230
Dimensions (H x W x D)	cm	82x60x57
Capacity (standard place settings)	N	12
Total power consumption	W	2300
Water quantity in base pan (approx.)	l	5
Water pressure (max./min.)	N/cm ²	80/5

Detergent/rinse aid dispenser

Dosing range	cm ³	1.7-6.5
Resistance	ohm	1500

Heater resistor

1st heating rod power consumption	W	2100
Resistance	ohm	26

Timer

Designation		D26340
-------------	--	--------

IWMS softener

Regeneration solenoid valve

Coil resistance	ohm	4950
-----------------	-----	------

Resin wash solenoid valve

Coil resistance	ohm	4950
-----------------	-----	------

Reset solenoid valve

Coil resistance	ohm	4950
-----------------	-----	------

Water intake valve

Delivery rate	l/min.	3 - 4
Coil resistance	ohm	3700

Thermostat:

Temperature	°C	47
Colour coding		white

Thermostat

Temperature	°C	59
Colour coding		red

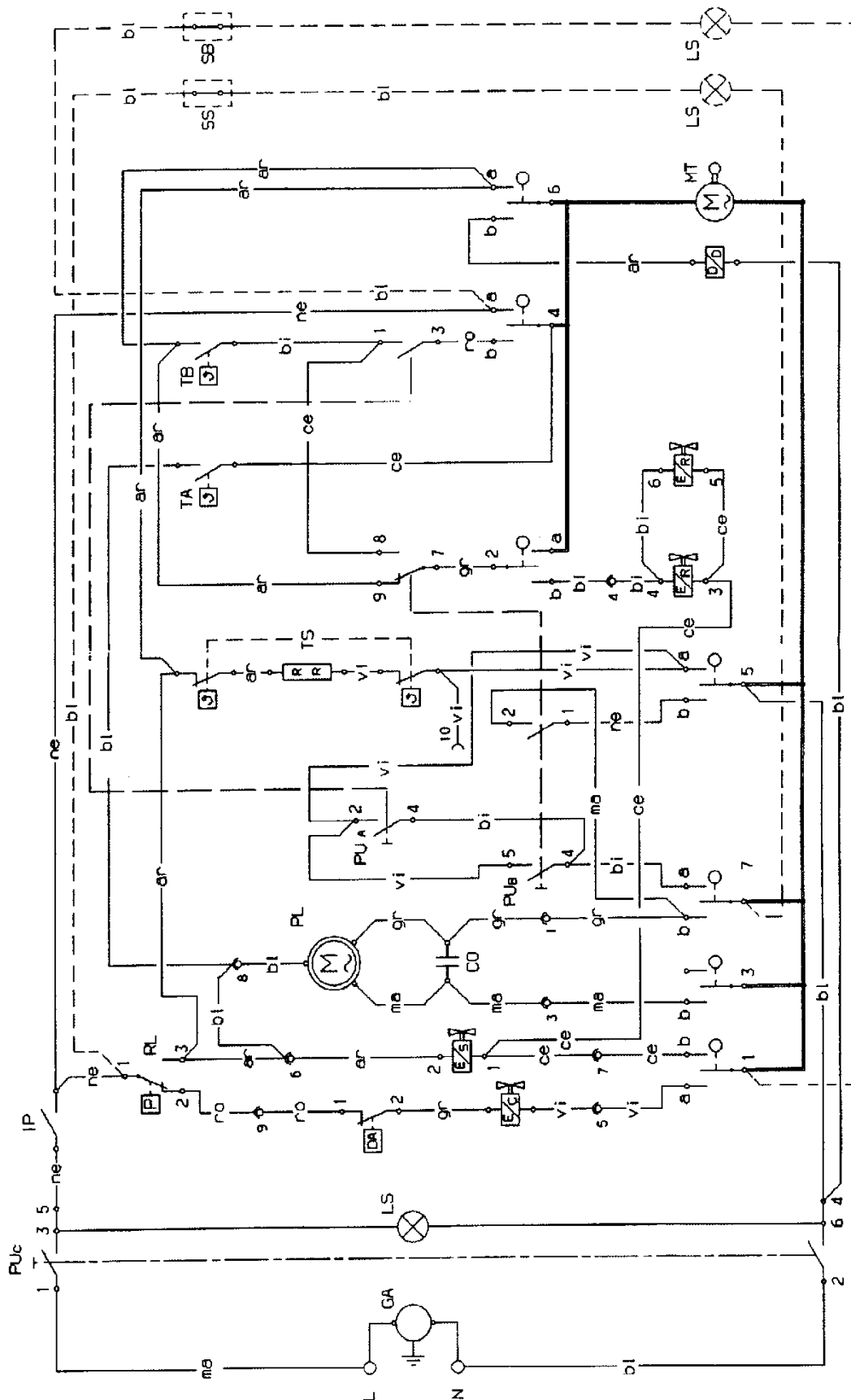
Safety thermostat

Temperature	°C	80
Colour coding		green

Circulation pump/Discharge motor

Insulation		F
Power consumption	W	158
Speed	rpm	2750
Current consumption	A	0.69
Circulation coil	ohm	47.5
Discharge coil	ohm	70
Starting capacitor	V/μF	450/4

2.4 Programme controller IG 646.2



2.5 Technical data IG 446.0

General features

Operating voltage	V	230
Dimensions (H x W x D)	cm	82x60x57
Capacity (standard place settings)	N	8
Total power consumption	W	3000
Water quantity in base pan (approx.)	l	5.1
Water pressure (max./min.)	N/cm ²	80/5

Discharge pump

Max. head	cm	100
Delivery rate	l/min	20
Power consumption	W	30
Winding resistance	ohm	170

Detergent/rinse aid dispenser

Dosage range	cm ³	1.7-6.5
Resistance	ohm	1500

Solenoid valve

Coil resistance	ohm	2500
-----------------	-----	------

Water intake valve

Delivery rate	l/min	2.5-4
Coil resistance	ohm	2500

Heater resistor

1st heating rod power consumption	W	2100
Resistance	ohm	26

Timer

Kennzeichen		D26340
-------------	--	--------

Thermostat

Temperature	°C	47
Colour coding		white

Thermostat

Temperature	°C	60
Colour coding		light blue

Safety thermostat

Temperature	°C	75
Colour coding		violet/orange

Circulation pump

Performance		continuous operation
Insulation		F
Starting capacitor	V/μF	450/4
Power consumption	W	160
Speed	rpm	2700
Current consumption	A	0.7
Resistance working coil	ohm	36.2
Resistance auxiliary coil	ohm	61.6

Programme run IG 446.0

PROGRAMME START													★ = Intake time X = Heating time		SWITCHING TIME - FUNCTIONS		
P.G.S. intake	Thermostat	Discharge with button	Water intake	P.G.S. intake	Detergent	Discharge pump	Circulation pump	Thermostat	Regeneration	Heating resistor, optional	P.G.S. intake	Thermostat	SWITCHING TIME - FUNCTION				
7	a	b		3	a	b							1	Drain	60"		
													2	Intake/wash/detergent	60"		
													3	Intake/wash	60"	★	
													4	Wash/heating/with thermostat	15"	X	
													5	Wash/regeneration	45"		
													6	Wash	120"		
													7	Drain/intake	60"		
													8	Intake/wash	60"		
													9	Intake/wash	120"	★	
													10	Drain	60"		
													11	Intake/wash	50"		
													12	Intake/wash	50"	★	
													13	Wash/heating with thermostat/rinse aid	50"	X	
													14	Wash/heating/rinse aid	50"		
													15	Drain	60"		
													16	Stop			
													17	Intake/drain	120"		
													18	Intake/wash	4'	★	
													19	Drain	120"		
													20	Stop			
													21	Drain	15"		
													22	Intake	45"		
													23	Intake/wash	15"		
													24	Intake/wash	45"	★	
													25	Wash/heating (with thermostat)	2,5"	X	
													26	Wash	6'		
													27	Drain	15"		
													28	Intake/detergent	45"		
													29	Intake/wash/detergent	15"		
													30	Intake/wash	45"	★	
													31	Wash/heating (with Bio thermostat)	2,5"	X	
													32	Wash	4'		
													33	Wash/heating/with thermostat	15"	X	
													34	Wash	105"		
													35	Wash	120"		
													36	Wash (heating Bio/Intensive)	120"		
													37	Wash	4'		
													38	Drain	60"		
													39	Intake/wash	60"		
													40	Intake/wash	15"		
													41	Intake/wash	105"	★	
													42	Wash (drain optional)	60"		
													43	Wash (intake optional)	3'	(★)	
													44	Drain	60"		
													45	Intake/wash	60"		
													46	Intake/wash	120"	★	
													47	Wash/heating with thermostat/rinse aid	60"	X	
													48	Wash/heating	15"		
													49	Wash/heating/rinse aid/regeneration	45"		
													50	Wash	120"		
													51	Drain/regeneration	15"		
													52	Regeneration	105"		
													53	Pause	15"		
													54	Heating	45"		
													55	Pause	5'		
													56	Intake/drain	15"		
													57	Drain/heating	15"		
													58	Intake/drain/heating	15"		
													59	Drain	75"		
													60	Stop			