

## TW alpha *plus* sample changer – automatic titration in series

The number of samples to be processed is growing constantly while at the same time the demands on reliability are increasing in accordance with GLP and ISO 900X standards. The TW alpha *plus* sample changer by SCHOTT Instruments helps you meet these increased requirements and relieve qualified employees from routine work.

### Control by titrator or by PC

You can control the sample changer from the TitroLine alpha *plus* titrator or from a PC with the TitrSoft software.

### Higher flexibility due to exchangeable sample racks

With four sample racks for up to 24 samples and titration head fittings for a variety of beaker and titrator vessels you get the flexibility your lab needs. A mere flick of the wrist is sufficient to change the sample racks and titrator heads. The size of the rack can be selected in the TitroLine alpha *plus* or in the ›Titration Center‹ of the TitrSoft software.

### Stirring from “above” or “below”

As standard, the TW alpha *plus* comes with an integrated magnetic stirrer to stir the samples from “below”. Alternatively, you can use a rod stirrer which enables stirring from “above”.



*plus*



### Washing the electrode and the titration tip

To ensure accuracy of the results, the electrodes and the titration tips are rinsed after each titration. This can, for example, be done by immersing the electrodes and titration tips into a wash-ing solution. The number of rinsing positions to be used (up to a maximum of three) and the rinsing time are set in the method. Direct and fast rinsing of the electrodes and titration tips can be ensured by using the MP 25 washing unit that rinses directly after the titration. In addition to this, a waiting position may also be used for example to immerse the pH electrodes into a KCl solution.

*Up to 24 samples in 50 ml glass beakers or 16 samples in 250 ml glass beakers will fit in the rotating sample tray. A sample tray for 24 COD containers is also available.*

# Ordering information TitroLine alpha plus

TitroLine alpha plus		Order no.
TitroLine alpha plus	TitroLine alpha plus basic unit <u>without</u> exchange unit, 230 V	285216952
TitroLine alpha plus	TitroLine alpha plus basic unit <u>without</u> exchange unit, 115 V	285216969

**Scope of delivery:** TitroLine alpha plus incl. stand rod with holder, titration clamp, PC keyboard TZ 2835.

TitroLine alpha plus	TitroLine alpha 05 plus with 5 ml exchange unit, (230 V)	285212934
TitroLine alpha plus	TitroLine alpha 10 plus with 10 ml exchange unit, (230 V)	285216944
TitroLine alpha plus	TitroLine alpha 20 plus with 20 ml exchange unit, (230 V)	285216977
TitroLine alpha plus	TitroLine alpha 50 plus with 50 ml exchange unit, (230 V)	285212983
TitroLine alpha plus	TitroLine alpha 05 plus with 5 ml exchange unit, (115 V)	285215467
TitroLine alpha plus	TitroLine alpha 10 plus with 10 ml exchange unit, (115 V)	285215475
TitroLine alpha plus	TitroLine alpha 20 plus with 20 ml exchange unit, (115 V)	285215631
TitroLine alpha plus	TitroLine alpha 50 plus with 50 ml exchange unit, (115 V)	285215648

**Scope of delivery:** As TitroLine alpha plus basic unit with 5, 10, 20 or 50 ml exchange unit, incl. brown glass bottle for titrant, GL 45 bottle adapter, hoses, drip glass and titration tip.

## TitroLine alpha KF plus

TitroLine alpha plus	TitroLine alpha KF 05 plus with 5 ml exchange unit, (230 V)	285212991
TitroLine alpha plus	TitroLine alpha KF 10 plus with 10 ml exchange unit, (230 V)	285213109
TitroLine alpha plus	TitroLine alpha KF 05 plus with 5 ml exchange unit, (115 V)	285215656
TitroLine alpha plus	TitroLine alpha KF 10 plus with 10 ml exchange unit, (115 V)	285215664

**Scope of delivery:** As TitroLine alpha plus basic unit with 5 or 10 ml exchange unit, incl. brown glass bottle for titrant, GL 45 bottle adapter, hoses, drip glass and titration tip, titration stand TMKF incl. supply and waste bottle, micro-double-platinum electrode KF 1100, titration vessel TZ 1770.

## TITRONIC® 110 plus

TITRONIC® 110 plus	TITRONIC® 110 plus basic unit <u>without</u> exchange unit, 230 V	1007302
TITRONIC® 110 plus	TITRONIC® 110 plus basic unit <u>without</u> exchange unit, 115 V	1007303

**Scope of delivery:** TITRONIC® 110 plus incl. stand rod with holder and titration clamp

## Exchange units for TitroLine alpha plus and TITRONIC® 110 plus

TA 01	Exchange unit with 1 ml glass cylinder incl. reagent bottle	285211313
TA 05 plus	Exchange unit with 5 ml glass cylinder incl. reagent bottle	285211038
TA 10 plus	Exchange unit with 10 ml glass cylinder incl. reagent bottle	285211046
TA 20 plus	Exchange unit with 20 ml glass cylinder incl. reagent bottle	285211054
TA 50 plus	Exchange unit with 50 ml glass cylinder incl. reagent bottle	285211062

## Software TitriSoft

TitriSoft 2.6	Titration software for TitroLine alpha plus and TitroLine alpha	285221717
TitriSoft 2.6 P	Titration software according to CFR 21 Part 11	285221720

## Accessories for TitroLine alpha plus and TITRONIC® 110 plus

TZ 2835	PC keyboard for TitroLine alpha plus and TITRONIC® 110 plus	1007852
TM 135	Magnetic stirrer	285211013
TM 128	Titration clamp/rod stirrer combination	285215167
TMKF	Titration stand Karl-Fischer with suction pump and stirrer incl. supply and waste bottle	285216611
TZ 1770	KF titration vessel 30 - 150 ml	285216677
TZ 1772	KF titration vessel 80 - 200 ml	285216693
TZ 1052	Drying oven for water determination according to Karl-Fischer, 230 V	285214721
TZ 1060	Accessory for drying oven TZ 1052	285218115
Z 303	Titration clamp for TL alpha plus and TITRONIC® 110 plus	1007304

# Ordering information TW alpha plus

Sample changer TW alpha plus		Order no.
TW alpha plus	Sample changer basic unit, 230 V	1007290
TW alpha plus	Sample changer basic unit, 115 V	1007291

**Scope of delivery:** Sample changer basic unit TW alpha plus with integrated magnetic stirrer and connection cable TZ 1581 for rod stirrer.

TW alpha plus 12	TW alpha plus basic unit with sample rack TZ 1452 for 12 samples, incl. titration head TZ 1463, connection cable and 20 beakers 250 ml, 230 V	1007292
TW alpha plus 16	TW alpha plus basic unit with sample rack TZ 1459 for 16 samples, incl. titration head TZ 1463, connection cable and 20 beakers 150 ml, 230 V	1007294
TW alpha plus 24	TW alpha plus basic unit with sample rack TZ 1454 for 24 samples, incl. titration head TZ 1462 and 30 beakers 50 ml, 230 V	1007296
TW alpha plus COD	TW alpha plus basic unit with sample rack TZ 1444 for 24 COD vessels in accordance with DIN, incl. titration head TZ 1461, rod stirrer TZ 1846, redox electrode Pt 5901, titration tip TZ 1648 and connection cable, 230 V	1007298
TW alpha plus MP	TW alpha plus basic unit with sample rack TZ 1459 for 16 samples, incl. titration head TZ 1467, membrane pump MP 25, connection cable and 20 beakers 150 ml, 230 V	1007305
TW alpha plus 12	TW alpha plus basic unit with sample rack TZ 1452 for 12 samples, incl. titration head TZ 1463, connection cable and 20 beakers 250 ml, 115 V	1007293
TW alpha plus 16	TW alpha plus basic unit with sample rack TZ 1459 for 16 samples, incl. titration head TZ 1463, connection cable and 20 beakers 150 ml, 115 V	1007295
TW alpha plus 24	TW alpha plus basic unit with sample rack TZ 1454 for 24 samples, incl. titration head TZ 1462 and 30 beakers 50 ml, 115 V	1007297
TW alpha plus COD	TW alpha plus basic unit with sample rack TZ 1444 for 24 COD vessels in accordance with DIN, incl. titration head TZ 1461, rod stirrer TZ 1846, redox electrode Pt 5901, titration tip TZ 1648 and connection cable, 115 V	1007299
TW alpha plus MP	TW alpha plus basic unit with sample rack TZ 1459 for 16 samples, incl. titration head TZ 1467, membrane pump MP 25, connection cable and 20 beakers 150 ml, 115 V	1007306

## Accessories for TW alpha plus

TZ 1444	Sample rack for 24 COD vessels in accordance with DIN 38 409	285213836
TZ 1452	Sample rack for 12 sample vessels, incl. 20 beakers 250 ml	285214927
TZ 1454	Sample rack for 24 sample vessels, incl. 30 beakers 50 ml	285213844
TZ 1459	Sample rack for 16 sample vessels, incl. 20 beakers 150 ml	285213166
TZ 1461	Titration head for COD sample rack TZ 1444	285213621
TZ 1462	Titration head for 24-sample rack TZ 1454	285213639
TZ 1463	Titration head for 12- (TZ 1452) and 16-sample rack (TZ 1459)	285213647
TZ 1467	Titration head for 12- (TZ 1452) and 16-sample rack (TZ 1459) incl. splash shield with membrane pump MP 25	285213671
MP 25	Membrane pump MP 25 with accessories for rinsing, 230 V	285216005
TZ 1847	Glass stirrer rod for 12-, 16- and 24-sample rack	285215175
TZ 1846	Glass stirrer rod for COD sample rack	285215134
TZ 1545	Magnetic stirring rods (10 pcs.)	285214232

## Data cable

TZ 3088	Data cable TitroLine alpha plus, TW alpha plus or TITRONIC® 110 plus ↔ PC, 5 m	1007972
TZ 3089	Data cable TitroLine alpha plus, TW alpha plus or TITRONIC® 110 plus ↔ PC, 10 m	1007973
TZ 3084	Data cable TitroLine alpha plus, TW alpha plus, TITRONIC® 110 plus ↔ TitroLine alpha plus, TW alpha plus, TITRONIC® 110 plus, 1.5 m	1007974
TZ 3086	Data cable TitroLine alpha plus, TW alpha plus, TITRONIC® 110 plus ↔ TitroLine alpha, TW alpha, TITRONIC® 110/ TITRONIC® 200, 1.5 m	1007975
TZ 3087	Data cable TitroLine alpha plus, TW alpha plus, or TITRONIC® 110 plus ↔ TITRONIC® universal, 1.5 m	1007976
TZ 3082	Data cable TitroLine alpha plus, TW alpha plus, or TITRONIC® 110 plus ↔ Sartorius balances, 5 m	1007977
TZ 3083	Data cable TitroLine alpha plus, TW alpha plus, or TITRONIC® 110 plus ↔ Mettler AT, PM balances, 5 m	1007978
TZ 3081	Data cable TitroLine alpha plus, TW alpha plus, or TITRONIC® 110 plus ↔ Mettler AB-S, PG balances, 5 m	1007979

Informations on electrodes for titration and other sensors see section "Laboratory electrodes"