RADIATORS
ITALIAN PREMIUM HEATING

PHD 2.0 AND THE NEW VALVE

15/04/16

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PHD 2.0 AND THE NEW VALVE

— THE NEW VALVE

— PHD 2.0

— CONCLUSION

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THE NEW VALVE

In all PHD models a new valve will be mounted in the new valve group.

The new valve group does not change the position of the hydraulic connections.

−This new valve will have an adjustment of 1k compared to 2K of the current valve.

−The new valve will be available in two different models N and U, to optimize the flow rate according to the radiator dimensions.

−The connection to the thermostatic head is M23,5x1,5 (unchanged compared to the current valve).

−The valve is pre – set.

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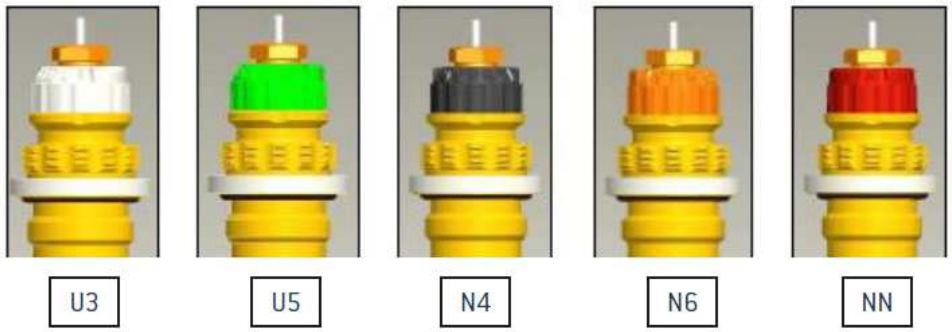
THE NEW VALVE

→ The new valve is available in two models N and U.

It will be possible to distinguish the two models by the cap :

Red for model N Yellow for model U

→ The different colors below are the different presetting of the two models:



RADIATORS

THE NEW VALVE

IN SUMMARY, THE VALVE CODES:

DL Radiators code	danfoss code	danfoss model	colour ring	presetting	cap
5580115600	013G1489	013G0380	black	N4	red
5580115700	013G1490	013G0380	orange	N6	red
5580115500	013G1488	013G0380	red	NN	red
5580115800	013G1401	013G0381	white	U3	yellow
5580115900	013G1402	013G0381	green	U5	yellow

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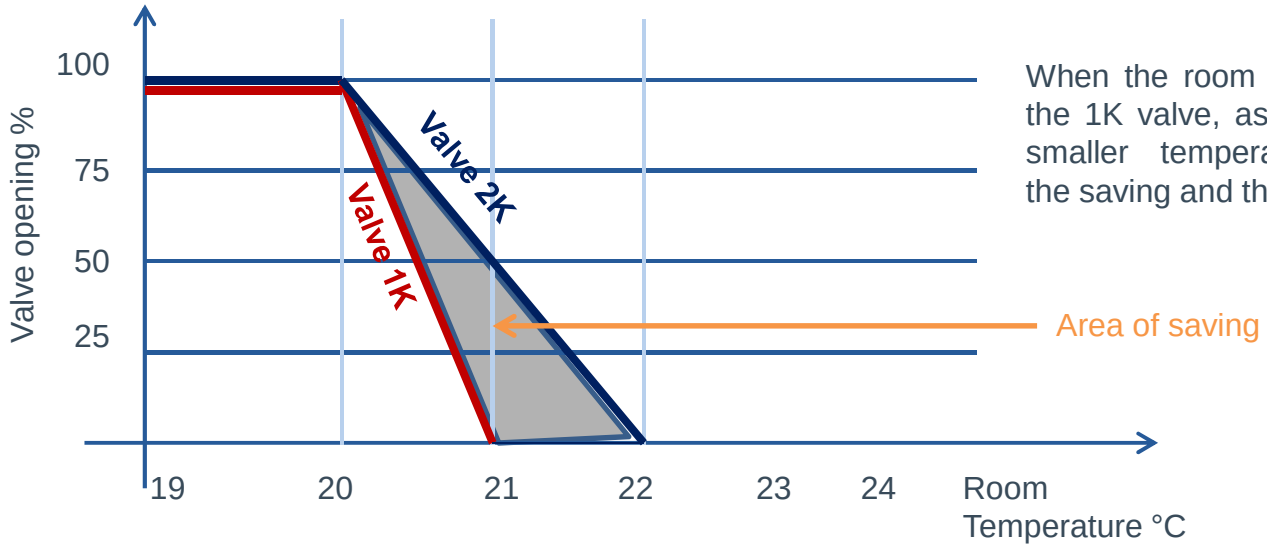
THE NEW VALVE

THE ADVANTAGES

More precise valve that reacts more quickly to end user's needs in terms of comfort temperature
Two valve models to ensure an accurate adjustment in base on the steel panel dimensions

More than 5% Saving



When the room temperature gets to 20°C the 1K valve, as in the graph, closes in a smaller temperature range. This ensures the saving and the temperature stability.

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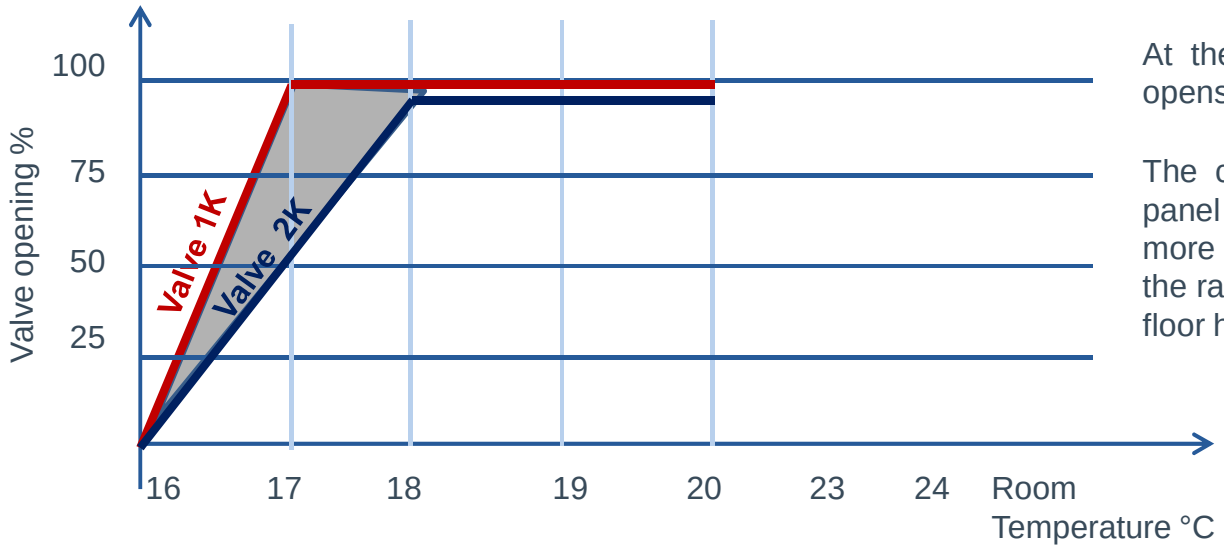
THE NEW VALVE

THE ADVANTAGES

More precise valve that reacts more quickly to end user's needs in terms of comfort temperature

Two valve models to ensure an accurate adjustment in base on the steel panel dimensions

Request of comfort



At the first request of comfort, the valve opens more quickly.

The correct flow rate of a specific steel panel dimension ensures the comfort more quickly. This is the real advantage of the radiator system compared to the under floor heating system.

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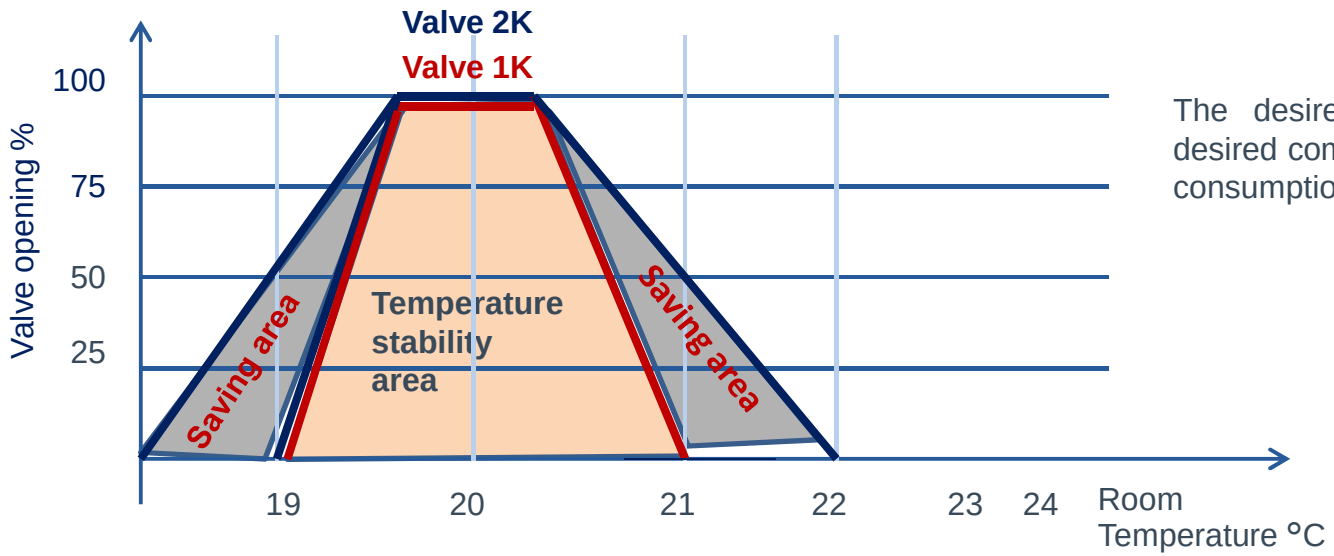
THE NEW VALVE

THE ADVANTAGES

More precise valve that reacts more quickly to end user's needs in terms of comfort temperature
Two valve models to ensure an accurate adjustment in base on the steel panel dimensions

Comfort in operation



The desired temperature is stable, the desired comfort is certain with the minimum consumption

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THE NEW VALVE

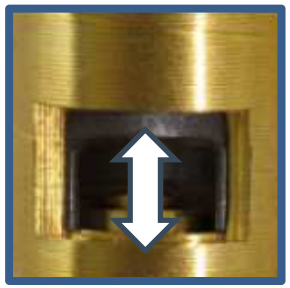
Pre-setted valve

Quick reaction of the valve to the end user requests of comfort

Time and money saving

The adjustment is already done by factory

Two different models to optimize the flow rate to the complete range of DL RADIATORS Steel panel



In detail **for small steel panels**,

A more precise adjustment ensures the right flow rate to the radiator.
The advantages of the radiator system are the flow rate management, the low inertia and the quick reaction to the request of comfort.

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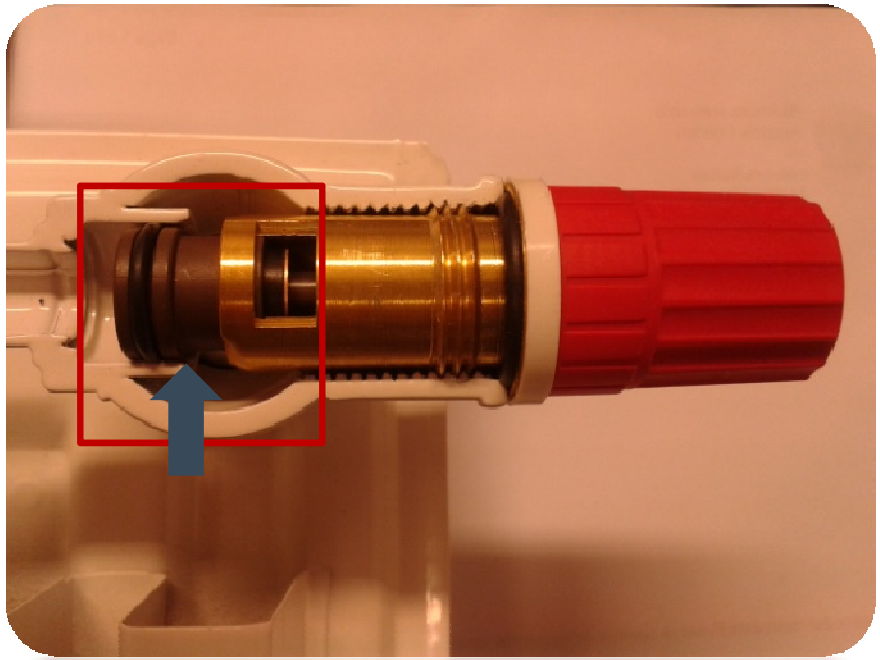
THE NEW VALVE

OLD VERSION VS NEW VERSION



Male valve to be placed in the female seat

Female valve to be placed in the male seat

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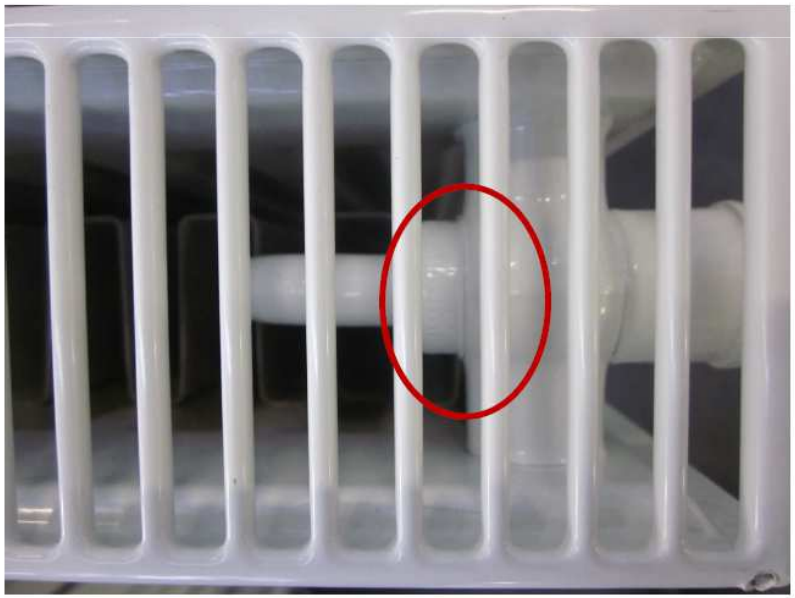
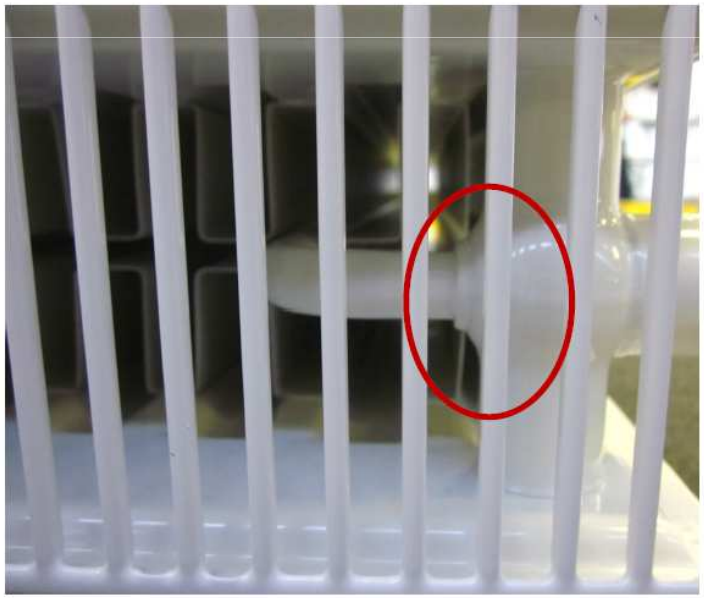
THE NEW VALVE

Looking the steel panel from the top , it is possible to distinguish:

OLD VERSION	VS	NEW VERSION
The garniture has female seat. Looking through the grid, is visible an additional ring between pipe and T-connector		The garniture has male seat. Looking through the grid, the pipe enter directly on the T-connector





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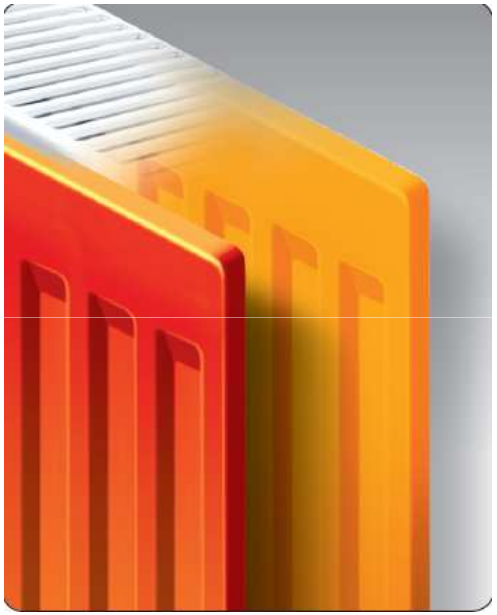
PHD 2.0



The PHD 2.0 technology ensures a better efficiency of the steel panel during the operating mode, when the central heating is on and the request is to guarantee a quick level of comfort.

The PHD Technology allows to vary the quota of heat released by radiation from the radiator thanks to the water flow differently distributed on the front and back panel.

The flow rate on the front is higher than the flow rate on the back.

The warm is rapidly oriented towards the room

The front panel gets warm more rapidly than the back.
This increases the radiant quote (35/40%) and gives advantages during the phase of warm up of the room.

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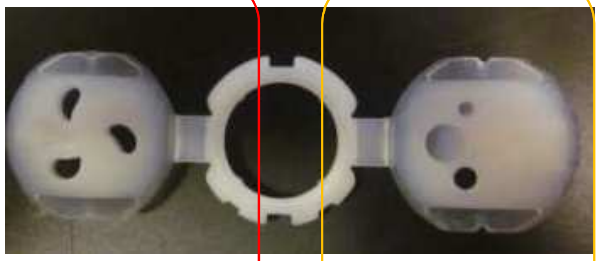
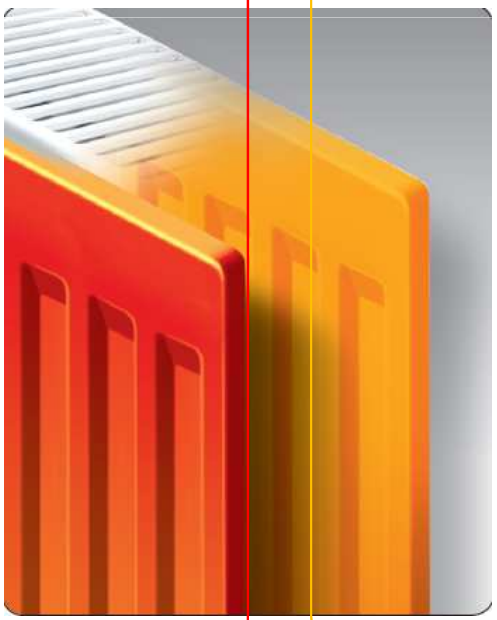
PHD 2.0

The below component is the internal new diaphragm.





The diaphragm front part is the one with 3 open holes.

This is to ensure the right flow of water to the front panel.

The back part is the one with 1 hole.

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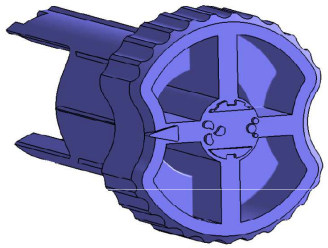
PHD 2.0

REVERSIBLE STEEL PANEL

The internal diaphragm can be rotate by using the dedicated tool



This gives the big advantage in a right valve side to rotate the diaphragm inside and then to rotate the valve on the left side thanks to the PHD 2.0!

No need of right and left side valves! No need of two steel panel code in stock.

This is possible in steel panel types 20, 21, 22, 33, 30

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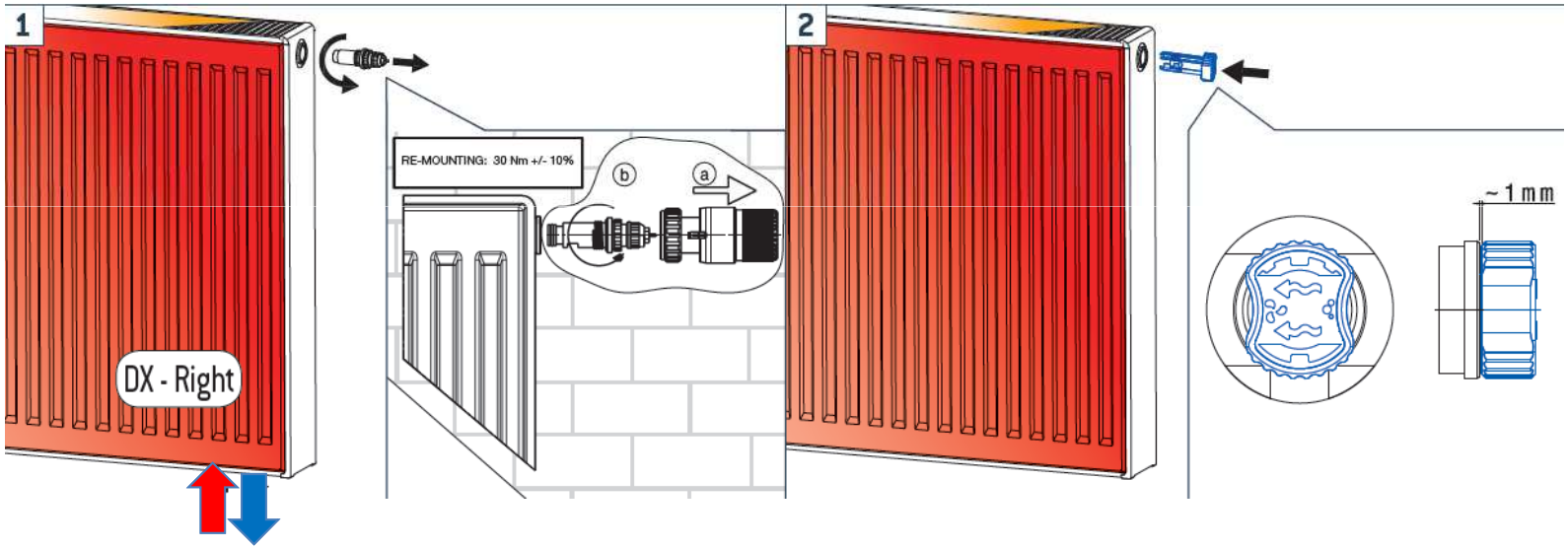
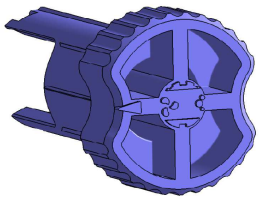
PHD 2.0

Here follows the steps to rotate the **right steel panel and make it left steel panel**



1. Remove the valve

2. Insert the tool



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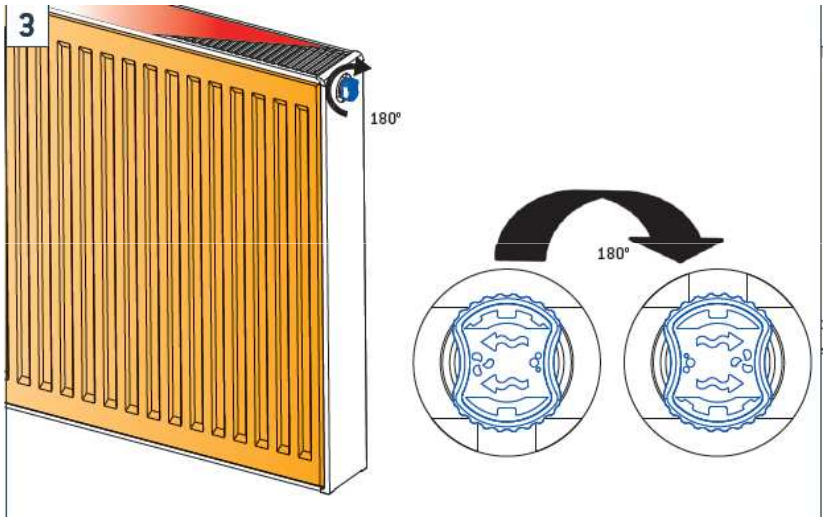
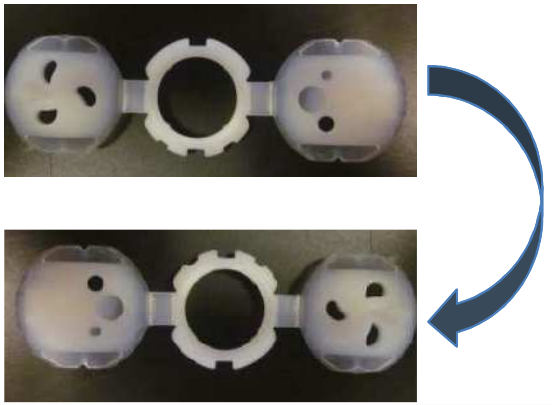
PHD 2.0



3. Rotate the tool

Note the front picture of the tool to check the right position of the tool and so the right rotation of the diaphragm inside.

This is what it is happening inside



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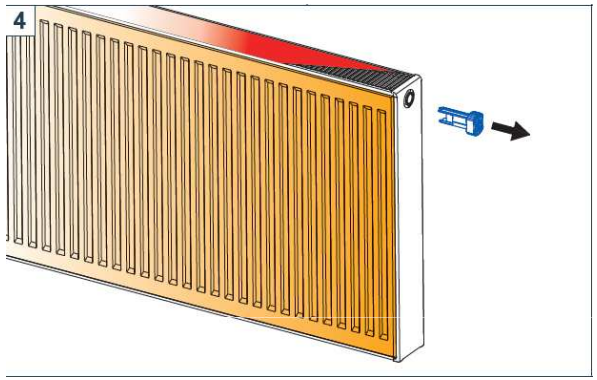
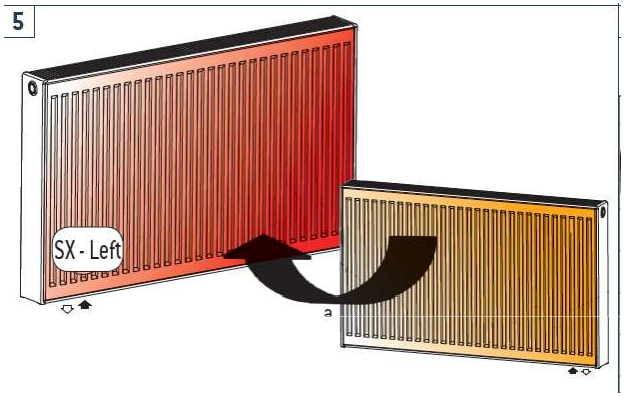
PHD 2.0



4. Remove the tool



5. Rotate the steel panel and insert the valve

Note the steel panel is now a left steel panel.

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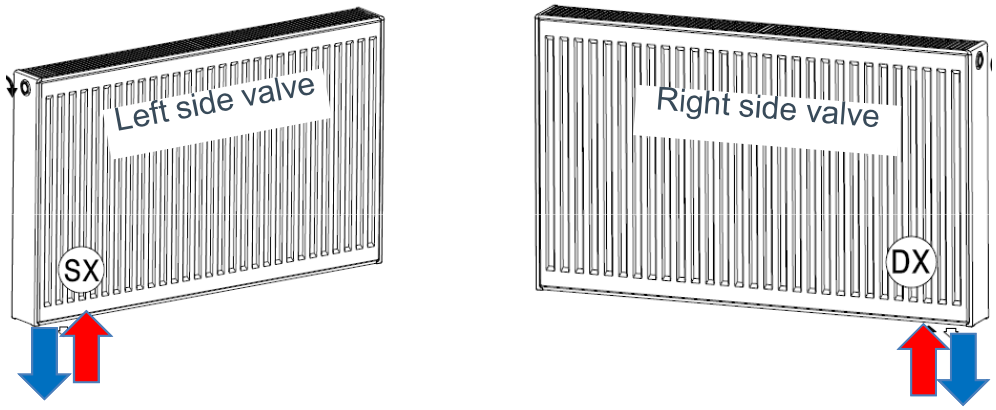
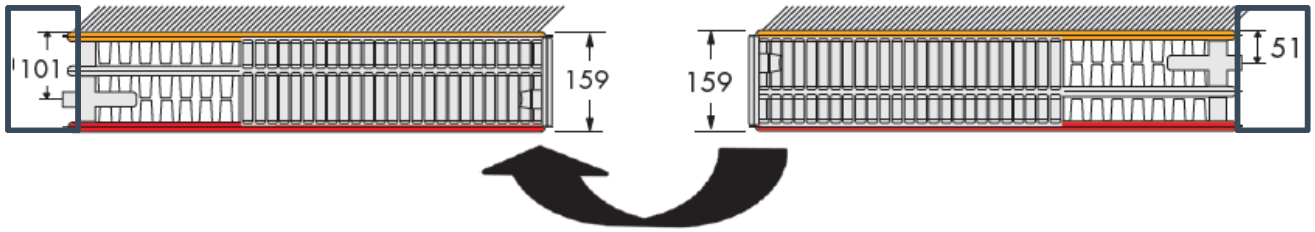
PHD 2.0

Take note of the connections position



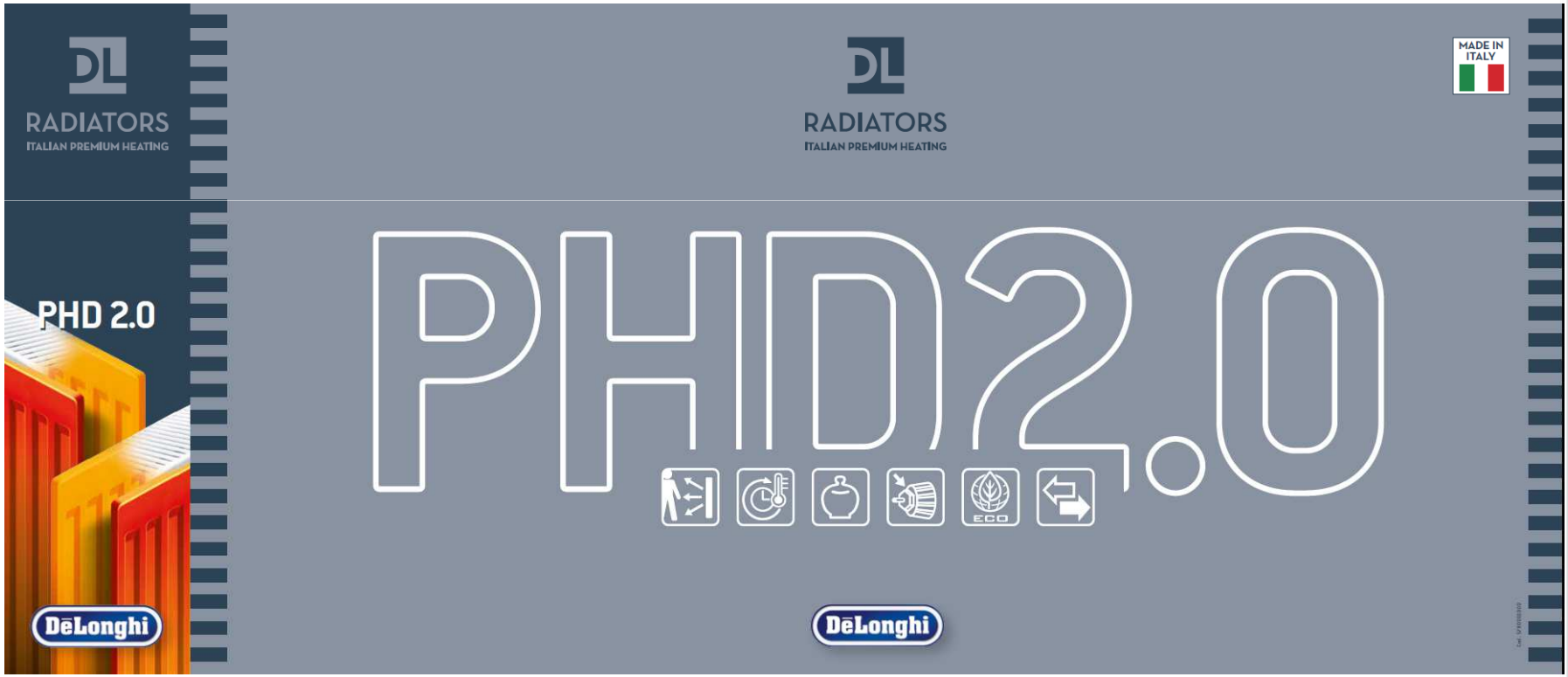
In case of type 33 and 30, take note of the following new connections distance



All other types (20, 21, 22) do not change the wall distance

PHD 2.0

In all PHD 2.0 models a new label will be applied on the packing to distinguish the new model



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CONCLUSION

→Comfort directly to the end user, the front panel gets warm more rapidly than the back.

→Temperature stability and comfort reached in a shorter time, thanks to the new valve and the PHD 2.0.

→ Pre- set valve, a dedicated and more precise adjustment according to steel panel dimensions. The consumption is optimized to guarantee the comfort managed by the room thermostat or by the thermostatic valve. As a car with automatic transmission, the radiator optimizes performance and consumption.

→ Reversible steel panel thanks to the new diaphragm, it can be rotate to change the orientation of the flow and the warm.

→ Money saving: the precise adjustment of the valve guarantees the optimization of the consumption

→Environmental friendly: the precise adjustment of the valve guarantees the optimization of the consumption and reduces the environmental impact.

RADIATORS

CONCLUSION

Bedienungsanleitung - *Istruzioni per l'uso*
Instructions - *Notice d'utilisation*

PHD 2.0

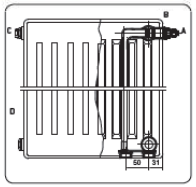
Voreingestellter Ventileinsatz
Preset valve
Vanne pré-réglée
Valvola termostatizzabile presettata

DE – Der Fertigheizkörper PHD² hat einen voreingestellten Ventileinsatz. Die Regelung erfolgt anhand der Heizleistung 70/55-20 °C des HKs und des Druckverlustes des montierten Ventileinsatzes (0,1 bar). Für eventuelle Wieder-Einstellung des Ventileinsatzes bitte sehen unten.

EN – *PHD² steel panel is supplied with preset thermostatic valve. Regulation is based on the 70/55-20 °C heat output of the radiator and the pressure drop of the mounted valve (0,1 bar). If resetting is required, please see below.*

FR – Le panneau avec vanne PHD² est fourni avec insert thermostatisable pré-réglé sur la base de la puissance thermique avec installation réglée à 70/55-20 °C (70 °C aller, 55 °C retour). En cas de réglage de la vanne thermostatisable, voir le paragraphe suivant.

IT – La piastra con valvola PHD² è fornita con inserto termostatizzabile presettato sulla base della resa termica con impianto settato a 70/55-20 °C (70 °C mandata, 55 °C ritorno). In caso di risettaggi della valvola termostatizzabile vedere paragrafo seguente.



Vormontiert / *Already mounted* / Monté en usine / *Premontato*

a. Voreingestellter Ventileinsatz Danfoss mit Kv-Einstellring
Preset Danfoss Thermostatic valve with adjusting ring
Vanne thermostatique Danfoss pré-réglée avec bague de regulation
Valvola termostatizzabile Danfoss presettata con anello di regolazione
DANFOSS: 013G0380 RA-N, 013G0381 RA-U

b. Integrierte universelle Ventilgarnitur / *Built-in valve connection*
Corps de robinet etuyauteré / *Gruppo valvola integrato*

c. Entlüftungsstopfen / *Air-vent plug* / Bouchon purgeur / *Tappo sfiato*

d. Blindstopfen/ *Blanking plug* / Bouchon plein/ *Tappo cieco*

WIEDER-EINSTELLUNGEN DES VENTILEINSATZES: ZWEIROHR - *VALVE RESETTING: TWOPIPE*
RÉGLAGE VANNE: BITUBE - *RISETTAGGI VALVOLA: BITUBO*

Einstellung der dimensionierten Einstellwerte

Die dimensionierten Einstellwerte lassen sich ohne Werkzeug einfach und exakt wiedereinstellen:
— Bauschutzkappe bzw. Element demontieren
— im Uhrzeigersinn auf den gewünschten Einstellwert verdrehen.

Die Voreinstellung kann zwischen 1 und 7 gewählt werden. Bei Einstellung „N" ist die Voreinstellung aufgehoben. Durch die Diebstahlsicherung des Elements wird ein Missbrauch der Voreinstellung verhindert.

Setting on alternative value

The calculated setting value can be reset easily and exactly without special tools:
— Remove the protective cap or sensor element
— Turn the scale on the setting ring until the required scale value faces the reference mark.

Setting can be between values 1-7. At setting N the valve is fully open. Avoid all setting in the shaded area. When the sensor element is fitted, the presetting ring is hidden and protected from alteration.

Réglage – autre position

Le réglage du débit s'effectue simplement sans outillage spécial:
— Démonter le capuchon de protection de l'élément thermostatique
— Tourner cette bague et placer l'index de réglage choisi face au repère situé sur le corps de robinet.

La zone de réglage est comprise entre les index 1 et 7 (robinet grand ouvert sans réglage sur la position N). Ne pas placer la bague de réglage en dehors de cette zone. La réglage est inaccessible à l'usager après montage de l'élément thermostatique.

Regolazione su posizione alternativa

Il valore di portata calcolato può essere facilmente reimpostato senza utensili speciali:
— togliere il cappuccio di protezione o l'elemento termostatico
— ruotare l'anello di regolazione finché il riferimento corrisponda, sulla scala di regolazione, al valore calcolato.

La regolazione può essere impostata da 1 a 7. Nella posizione N la valvola è completamente aperta. Non posizionare la valvola su valori intermedi. Rimontando l'elemento termostatico si nasconde la regolazione e ciò rappresenta la protezione alla manomissione.

Fig. 1

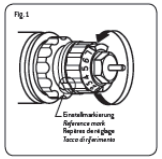
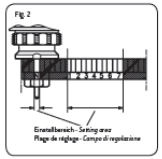


Fig. 2



VOREINSTELLWERTE - *PRE SETTING VALUES*
VALEURS DE PRÉRÉGLAGE - *VALORI DI PRE REGOLAZIONE*

NN	Danfoss 013G0382 RA-U
N4	Danfoss 013G0380 RA-N
N6	Danfoss 013G0381 RA-N
U3	Danfoss 013G0381 RA-U
U5	Danfoss 013G0381 RA-U

70/55-20 °C

H	300							400							500						
L	TYPE	10	11	21	20	22	30	33	10	11	21	20	22	30	33	10	11	21	20	22	30	33
400		U3	U3	U3	U3	U3	U3	U3	U3	U3	U3	U3	U3	U3	U3	U3	U3	U3	U3	U3	U3	U5
500		U3	U3	U3	U3	U3	U3	U3	U3	U3	U3	U3	U3	U3	U5	U3	U3	U3	U3	U3	U3	U5
600		U3	U3	U3	U3	U3	U3	U5	U3	U3	U3	U3	U3	U3	U5	U3	U3	U3	U3	U5	U3	U5
700		U3	U3	U3	U3	U3	U3	U5	U3	U3	U3	U3	U5	U3	U5	U3	U3	U3	U3	U5	U5	U5
800		U3	U3	U3	U3	U5	U3	U5	U3	U3	U3	U3	U5	U5	U5	U3	U3	U5	U3	U5	U5	N4
900		U3	U3	U3	U5	U3	U5	U5	U3	U3	U5	U3	U5	U5	N4	U3	U3	U5	U5	U5	U5	N4
1000		U3	U3	U3	U3	U5	U5	U5	U3	U3	U5	U3	U5	U5	N4	U3	U5	U5	U5	N4	U5	N4
1100		U3	U3	U5	U3	U5	U5	N4	U3	U3	U5	U5	U5	U5	N4	U3	U5	U5	U5	N4	U5	N6
1200		U3	U3	U5	U5	U5	U5	N4	U3	U5	U5	U5	N4	N4	N4	U5	U5	N4	N4	N4	N4	N6
1400		U3	U3	U5	U5	U5	U5	N4	U3	U5	U5	U5	N4	N4	N6	U5	U5	N4	U5	N4	N4	N6
1600		U3	U5	U5	U5	N4	U5	N6	U3	U5	N4	U5	N4	N4	N6	U5	U5	N4	U5	N6	N6	N6
1800		U3	U5	U5	U5	N4	N4	N6	U3	U5	N4	N4	U5	N6	N6	U5	U5	N4	N4	N6	N6	N6
2000		U3	U5	U5	U5	N4	N4	N6	U5	U5	N4	U5	N6	N6	N6	U5	N4	N6	N4	N6	N6	N6
2300		U5	U5	N4	U5	N6	N4	N6	U5	N4	N6	N4	N6	N6	NN	U5	N4	N6	N4	NN	N6	NN
2600		U5	U5	N4	U5	N6	N6	NN	U5	N4	N6	N4	N6	NN	NN	U5	N6	N6	N6	NN	NN	NN
3000		U5	N4	N6	N4	N6	N6	NN	U5	N4	N6	N6	NN	N6	NN	N4	N6	NN	N6	NN	NN	NN

H	600							700							800						
L	TYPE	10	11	21	20	22	30	33	10	11	21	20	22	30	33	10	11	21	20	22	30	33
400		U3	U3	U3	U3	U3	U3	U5	U3	U3	U3	U3	U5	U3	U5	U3	U3	U3	U3	U5	U5	U5
500		U3	U3	U3	U3	U5	U3	U5	U3	U3	U3	U3	U5	U3	U5	U3	U3	U5	U3	U5	U5	N4
600		U3	U3	U3	U3	U5	U5	U5	U3	U3	U5	U3	U5	U5	N4	U3	U5	U5	U5	U5	U5	N4
700		U3	U3	U5	U3	U5	U5	N4	U3	U3	U5	U3	U5	U5	N4	U5	U5	U5	U5	N4	U5	N6
800		U3	U3	U5	U5	U5	U5	N4	U3	U5	U5	U5	N4	U5	N6	U3	U5	U5	U5	N4	N4	N6
900		U3	U5	U5	U5	N4	U5	N6	U3	U5	U5	U5	N4	U5	N6	U5	U5	N4	U5	N6	N6	N6
1000		U3	U5	U5	U5	N4	U5	N6	U3	U5	U5	U5	N4	U5	N6	U5	U5	N4	U5	N6	N6	N6
1100		U3	U5	U5	U5	N4	N4	N6	U5	U5	N4	U5	N6	N4	N6	U5	U5	N4	N4	N6	N6	NN
1200		U5	U5	N4	U5	N4	N4	N6	U5	U5	N4	U5	N6	N4	N6	U5	N4	N4	N4	N6	N6	NN
1400		U5	U5	N4	U5	N6	N6	NN	U5	N4	N4	N4	N6	N6	NN	U5	N4	N6	N6	N6	N6	NN
1600		U5	N4	N4	N4	N6	N6	NN	U5	N4	N6	N4	N6	N6	NN	N4	N4	N6	N6	NN	NN	NN
1800		U5	N4	N6	N4	N6	N6	NN	U5	N4	N6	N4	N6	NN	NN	N4	N6	N6	N6	NN	NN	NN
2000		U5	N4	N6	N4	N6	N6	NN	N4	N6	N6	N6	NN	N6	NN	N4	N6	NN	N6	NN	NN	NN
2300		N4	N6	N6	N6	NN	NN	NN	N4	N6	NN	N6	NN	NN	NN	N6	NN	NN	NN	NN	NN	NN
2600		N4	N6	NN	N6	NN	NN	NN	N4	N6	NN	N6	NN	NN	NN	N6	NN	NN	NN	NN	NN	NN
3000		N4	N6	NN	N6	NN	NN	NN	N6	N6	NN	N6	NN	NN	NN	N6	NN	NN	NN	NN	NN	NN

Differenzdruck am Heizkörper Δp – 0,1 Bar - *Pressure drop in the radiator Δp – 0,1 bar* - Perte de charge dans le radiateur Δp – 0,1 bar - *Perdita di carico nel radiatore Δp – 0,1 Bar*

Einrohrsystem

Bei Einsatz im Einrohrsystem ist zusätzlich ein absperrbarer Verteiler (Hahnblock) mit einstellbarem Bypass anzubringen. Das Ventil muß auf Position N eingestellt werden.

Single-pipe system

With single-pipe systems, it is necessary to use a distributor having an adjustable by-pass. The Danfoss thermostatic valve must be set on position N.

Système monotube

Pour les installations monotube il est indispensable d'utiliser la vanne d'isolement avec by-pass. La bague de régulation de la vanne thermostatique devra être en position N.

Sistema monotubo

Per gli impianti monotubo è necessario utilizzare il distributore con by-pass regolabile. La valvola Danfoss deve essere regolata sulla posizione N.

Für Fernheizungsanlagen (kleine Volumenströme) bitte nur das Ventil Danfoss 013G0381 RA-U verwenden
For heating district system use only Danfoss 013G0381 RA-U (for small water flows)
Pour se raccorder au réseau de chauffage, utiliser exclusivement la vanne Danfoss 013G0381 (pour faible débit)
Per teleriscaldamento usare solo la valvola Danfoss 013G0381 RA-U (per piccole portate)

RADIATORS

CONCLUSION

DEMONTAGE UND REINIGUNG DES VENTIL - *DISMANTLE AND CLEANING OF THE VALVE*
DÉMONTAGE ET NETTOYAGE DE LA VANNE - *SMONTAGGIO E PULIZIA VALVOLA*

Schmutzteile in der Anlage (wie Schweißperlen, Metallspäne usw.) können die korrekte Funktion des Ventils beeinträchtigen und sollten vor der Inbetriebnahme ausgespült werden.

Foreign bodies in the heating system (like solds, swarf, etc.) can damage the proper functioning of the valve and must be flushed out before system activation.

La presence de corps étrangers dans l'installation (par exemple perles de soudure, déchets métalliques,...) risque d'endommager le fonctionnement des vannes. Si c'est le cas elles doivent être rincées avant la mise en service de l'installation.

Corpi estranei presenti nell'impianto (come perle di saldatura, trucioni metallici, ecc.) possono danneggiare il corretto funzionamento della valvola e devono essere sciacquati prima della messa in funzione dell'impianto.

1 Ventil demontieren - *Dismantle the valve*
Désassembler la vanne - *Smontare la valvola*

Vor Demontage: Eindrehposition Ventil/ Heizkörper markieren. Für den Ausbau des Ventileinsatzes, ist ein Zweiflankringschlüssel SW 21 zu verwenden.

Before dismantling: mark the position valve /radiator. For dismantling the valve use a box spanner (polygonal) SW 21.

Avant le démontage: marquer la position vanne radiateur. Pour le démontage utiliser une clef femelle de SW 21 (polygonale à 12 côtes).

Prima dello smontaggio: marcare la posizione valvola / radiatore. Per lo smontaggio della valvola usare una chiave a stella (poligonale) SW21.

2 Ventil säubern - *Clean the valve*
Nettoyer la vanne - *Pulire la valvola*

Ventil reinigen. O-Ring auf Beschädigung prüfen.

Clean the valve. Check the OR facility.

Nettoyer la vanne et contrôler l'état des joints toriques.

Pulire la valvola. Controllare l'integrità delle guarnizioni OR.

3 Wiedermontage des Ventils - *Reassemble the valve*
Remonter la vanne - *Rimontare la valvola*

Ventil einschrauben, bis markierte Position erreicht ist. Wenn man ein neues Ventil einbaut, ist es nötig ein Anzugsmoment von 30 Nm +/- 10% zu beachten.

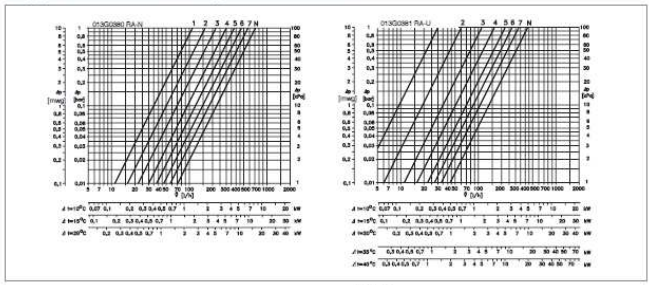
Tighten the valve until the previously marked position is reached. Do not exceed a torque of 30 Nm +/- 10% when fitting a new valve.

Visser la vane jusqu'atteindre la positiona marquée. Pour monter une nouvelle vanne, il faudra respecter une force de fermeture (serrage) de 30 Nm +/- 10%.

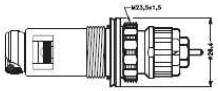
Avvitare la valvola fino al raggiungimento della posizione marcata. Nel montaggio di una nuova valvola rispettare una forza di chiusura pari a 30 Nm +/- 10%.

WIEDEREINSTELLUNGSWERTE DES VENTILS - *RESETTING VALUES*
VALEURS DE PRÉRÉGLAGE Á NOVEAU - *VALORI DI RISETTAGGIO DELLA VALVOLA*

Voreinstellung auf 70/55-20 °C Wert / *Preset valve on 70/55-20 °C value*
Pré-réglage de la vanne sur la valeur 70/55-20 °C / *Presettaggio della valvola sul valore 70/55-20 °C*



Ventil / Valve / Vanne / Valvola: U – 013G0381 Danfoss
Ventil / Valve / Vanne / Valvola: N – 013G0380 Danfoss



REVERSIBILITÀ DEL PHD2.0 - PHD2.0 REVERSIBILITY — *TYPE 20, 21, 22, 30, 33*