



**PHILIPS**

Cardiac Expert extension

MR Clinical application

# Fast CMR methods for anatomy, function and more

Cardiac Expert extension is an add-on to the comprehensive Cardiac Expert option. It provides additional techniques for cardiac MR studies like fast black blood imaging and functional imaging.

Cardiac Zoom is a small FOV imaging technique that accelerates black blood TSE of the heart and great vessels. It decreases the required breath hold duration by up to 30% without changing spatial resolution by enabling single beat (shot) imaging, which is challenging for conventional (multi-beat) imaging approaches.<sup>1</sup>

3D Non-selective delivers 3D bFFE with reduced banding artifacts compared to Philips 3D Selective 3D FFE imaging.

Retrospective EPI combines retrospective triggering with EPI sampling.

kt-SENSE is a spatio-temporal acceleration technique that offers all the benefits of k-t BLAST in addition to enhanced image uniformity.<sup>2</sup>

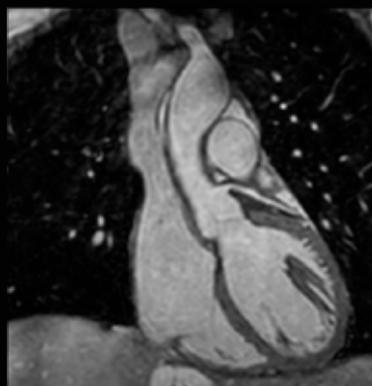
<sup>1</sup> Compared to conventional Philips black blood imaging.

<sup>2</sup> Compared to regular k-t BLAST.

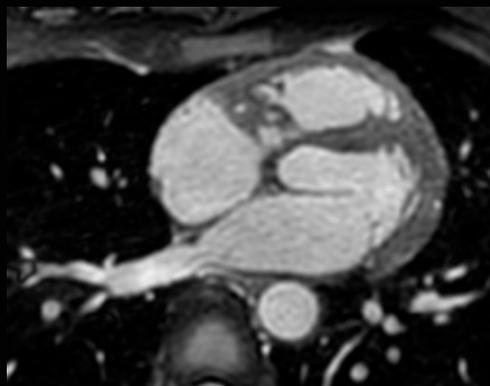
# Cardiac Expert extension

Field strength	1.5T and 3.0T Ingenia MR systems, excluding Ingenia Prodiva <sup>1</sup>
Prerequisite	k-t BLAST SW option
Main applications	Cardiac, Vascular (2D/4D flow)
Sequence	Black Blood TSE, 2D and 3D FFE/TFE, 3D balanced FFE multi-dynamic or multi-phase acquisitions, Phase Contrast Angiography
Image contrast	Available for a range of contrasts, including T1w, T2w, PDw and Quantitative Flow
Speed	- Cardiac Zoom reduces scan time up to 30% with equal spatial resolution <sup>3</sup> - Retrospective EPI delivers faster scanning compared to non-EPI Q-flow
Image quality	- Cardiac Zoom reduced sensitivity to motion due to the small FOV and shorter scan time <sup>3</sup> - 3D Non-selective reduces black banding artefacts in cardiac bFFE, enables bFFE on 3.0T <sup>4</sup> - k-t SENSE enhances image uniformity due to dS SENSE reconstruction with CLEAR

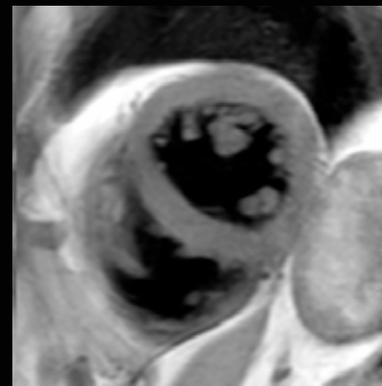
<sup>1</sup> Ingenia Prodiva 1.5T is not for sale in the USA



**Non-selective 3D bFFE**  
Resolution: 1.5 x 1.5 x 1.5 mm  
Scan time: 2:48 min  
Ingenia 1.5T



**Non-selective 3D bFFE**  
Resolution: 1.5 x 1.5 x 1.5 mm  
Scan time: 2:48 min  
Ingenia 1.5T



**Cardiac Zoom T1w TSE Black Blood**  
Resolution: 0.9 x 1.3 x 8.0 mm  
Scan time: 9.8 sec  
Ingenia 1.5T

<sup>3</sup> Compared to conventional Philips black blood imaging.  
<sup>4</sup> Compared to Philips 3D Selective 3D bFFE imaging.

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