DELIBERAZIONE N. **664** DEL **23/07/2025**

OGGETTO: AFFIDAMENTO, SECONDO L'ART. 76 COMMA 2 LETT. B PUNTO 2) DEL D.LGS. 36/2023, ALLA SOCIETA' REVVITY ITALIA SPA DEL SERVIZIO DI MANUTENZIONE ED ASSISTENZA TECNICA SUL SISTEMA OPERA PHENIX PLUS SYSTEM OCCORRENTE ALLA UOC DI RICERCA TRASLAZIONE ONCOLOGICA IRE DEGLI IFO – PERIODO 01.04.2025 - 31.03.2028 - CODICE CIG: B6D60C15A4

Esercizi/o e conto 2025-2026-2027-2028 503030101

Centri/o di costo 1100050

- Importo presente Atto: € 217.588,22

- Importo esercizio corrente: € 54.397,06

Budget

- Assegnato: € -

- Utilizzato: € -

- Residuo: € -

Autorizzazione n°: 2025/1 SIST INF

Servizio Risorse Economiche: **Giovanna Evangelista**

STRUTTURA PROPONENTE

UOSD Ingegneria Clinica e Tecnologie e Sistemi Informatici

Il Dirigente Responsabile

Giuseppe Navanteri

Responsabile del Procedimento

Giuseppe Navanteri

L'Estensore

Silvia Placidi

Proposta n° DL-628-2025

PARERE DEL DIRETTORE SANITARIO

Positivo

Data 23/07/2025

IL DIRETTORE SANITARIO f.f.
Costanza Cavuto

PARERE DEL DIRETTORE AMMINISTRATIVO

Positivo

Data 23/07/2025

IL DIRETTORE AMMINISTRATIVO
Massimo Armitari

Parere del Direttore Scientifico IRE f.f. **Giovanni Blandino** data 22/07/2025 Positivo

Parere del Direttore Scientifico ISG **Maria Concetta Fargnoli** data 22/07/2025 Positivo

La presente deliberazione si compone di n° 7 pagine e dei seguenti allegati che ne formano parte integrante e sostanziale:
Allegato 1 e Allegato 2

Il Dirigente della UOSD Ingegneria Clinica e Tecnologie e Sistemi Informatici

Visto il decreto legislativo 30 dicembre 1992 n. 502 e successive modificazioni ed integrazioni;

il decreto legislativo 16 ottobre 2003 n. 288 e il decreto legislativo 23 dicembre 2022 n. 200 di riordino della disciplina degli Istituti di ricovero e cura a carattere scientifico;

Vista la legge regionale 23 gennaio 2006, n. 2;

Visto l'Atto Aziendale adottato con deliberazione n. 153 del 19.02.2019 e approvato dalla Regione Lazio con DCA n. U00248 del 2.07.2019, modificato e integrato con deliberazioni n. 1254 del 02.12.2020, n. 46 del 21/01/2021 e n. 380 del 25.03.2021, approvate dalla Direzione Salute ed Integrazione Sociosanitaria della Regione Lazio, con Determinazione n. G03488 del 30.03.2021;

Vista il Decreto del Presidente della Regione Lazio n. T00015 del 12 febbraio 2025 avente ad oggetto "Nomina del Direttore Generale dell'Azienda Sanitaria Locale dell'IRCCS Istituti Fisioterapici Ospitalieri (Art. 8, comma 7 bis, della legge regionale 16 giugno 1994, n. 18 e s.m.i.)" ;

Vista la deliberazione n. 160 del 18 febbraio 2025 di presa d'atto dell'insediamento del Direttore Generale dell'IRCCS Istituti Fisioterapici Ospitalieri Dott. Livio De Angelis;

Vista la deliberazione n. 293 del 31.03.2025 con la quale il Dott. Massimo Armitari è stato nominato Direttore Amministrativo degli Istituti Fisioterapici Ospitalieri (IFO);

Vista la deliberazione n. 367 del 23 aprile 2024 con la quale la Dott.ssa Costanza Cavuto è stata nominata Direttore Sanitario f.f. degli Istituti Fisioterapici Ospitalieri;

Visto il D.M. del Ministero della Salute del 20 giugno 2024 di conferma del riconoscimento del carattere scientifico dell'IRCCS di diritto pubblico a Istituti Fisioterapici Ospitalieri (IFO) relativamente alla disciplina di "oncologia" per l'Istituto Nazionale Tumori Regina Elena (IRE) e alla disciplina di "dermatologia" per l'Istituto Santa Maria e San Gallicano (ISG);

Premesso che con Delib. n. 813 del 15 settembre 2023 è stato acquistato il sistema "Opera Phenix Plus System", il quale comprende un innovativo lettore ottico confocale, in grado di acquisire immagini simultanee ad elevata sensibilità ed elevato contenuto informativo da un grande numero di campioni, occorrente alla UOC di Ricerca Traslazione Oncologica IRE degli IFO;

Considerato che, alla scadenza del periodo di garanzia, risulta quindi necessario prevedere un servizio di assistenza e manutenzione sulle apparecchiature in oggetto al fine di poter adempiere correttamente agli obblighi della Pubblica Amministrazione;

Considerato che con Delib. n. 689 del 19 giugno 2020 tramite adesione al Lotto 1 della gara indetta dalla Regione Lazio, è stato affidato all'ATI HC Hospital Consulting Spa-GE Medical System Italia Spa- Philips Spa il servizio di gestione integrata e manutenzione delle apparecchiature sanitarie e scientifiche di bassa e media tecnologia degli IFO;

che l'apparecchiatura di cui trattasi, considerata la specificità dell'apparecchiatura, necessita di assistenza specialistica;

Ritenuto opportuno procedere con l'affidamento del servizio di manutenzione ed assistenza tecnica per le apparecchiature in oggetto al fine di garantire che le stesse siano adeguate all'uso, controllate e tarate per il corretto svolgimento delle attività di ricerca dei laboratori in questione;

Verificato che la tipologia di fornitura non è presente nelle convenzioni attive stipulate da Consip S.p.A.;

Ritenuto che la società Revvity Italia SpA in quanto produttrice dei sistemi in oggetto è l'unica a poter effettuare l'assistenza su tali sistemi;

Dato atto che in ossequio anche alle linee guida n. 8 dell'ANAC che invitano le stazioni appaltanti a verificare sul mercato la dichiarata infungibilità, è stata pubblicata sul sito aziendale una consultazione preliminare di mercato ai sensi dell'art. 77 del D.Lgs 36/2023 per il servizio di manutenzione e assistenza tecnica sul sistema "Opera Phenix Plus System" in uso presso la UOC di Ricerca Traslazione Oncologica IRE degli IFO;

Considerato che in risposta alla suddetta consultazione è pervenuta una sola manifestazione d'interesse da parte della società Revvity Italia SpA corredata da opportuna documentazione tecnica, messa agli atti con protocollo interno IFO n. 0009209 del 19/06/2025 (Allegato 1 al presente atto a formarne parte integrante e sostanziale);

Ritenuto pertanto, in funzione della sussistenza dei presupposti di esclusività, e la mancanza di un'alternativa tecnica, di poter esperire la procedura negoziata senza previa pubblicazione del bando di gara, con unico fornitore ai sensi dell'art. 76, comma 2, lett. b, punto 2) del D.Lgs 36/202023 e ss.mm.i.. per l'affidamento del servizio di manutenzione e assistenza tecnica sul sistema "Opera Phenix Plus System" oggetto del presente atto;

Considerato che dalla valutazione dell'offerta preliminare di assistenza tecnica presentata dalla società Revvity Italia SpA, il contratto di assistenza annuale risulta meno economicamente conveniente rispetto alla proposta di assistenza tecnica triennale riportando un importo maggiorato di € 4.987,56;

Precisato che tutta la documentazione richiamata e non allegata nella presente deliberazione, è reperibile agli atti della UOC/UOSD proponente;

Considerato che per quanto detto e in osservanza ai principi di cui agli artt. da 1 a 12 del D Lgs 36/2023 la scrivente UOSD ha avviato sul portale S.Tel.La una procedura negoziata senza previa pubblicazione del bando con l'O.E. Revvity Italia SpA

con richiesta di offerta per il contratto triennale di assistenza e manutenzione sul sistema "Opera Phenix Plus System" in uso presso la UOC di Ricerca Traslazione Oncologica IRE degli IFO;

Dato atto che, entro i termini stabiliti per la presentazione delle offerte la società Revvity Italia SpA ha inviato un'offerta per il servizio richiesto per un importo pari ad € 178.351,00 oltre oneri di legge (Allegato 2 al presente atto a formarne parte integrante e sostanziale);

Valutato che l'importo complessivo del servizio risulta essere in linea con gli importi di analoghi affidamenti, pertanto è ritenuto congruo;

Ritenuto alla luce di quanto esposto, di affidare alla società Revvity Italia SpA il servizio di manutenzione e assistenza tecnica sul sistema Opera Phenix Plus System - periodo 01.04.2025 – 31.03.2028– CIG: B6D60C15A4;

Considerato che l'importo complessivo del presente affidamento pari a € 178.351,00 oltre iva (22%) e cioè pari a € 217.588,22 iva inclusa graverà sul conto economico n. 503030101 dei seguenti esercizi finanziari:

- 2025: € 44.587,75€ + iva 22% = € 54.397,06;
- 2026: € 59.450,33 + iva 22% = € 72.529,41;
- 2027: € 59.450,33 + iva 22% = € 72.529,41;
- 2028: € 14.862.58 + iva 22% = € 18.132,35

Attestato che il presente provvedimento, a seguito dell'istruttoria effettuata, nella forma e nella sostanza è totalmente legittimo e utile per il servizio pubblico, ai sensi dell'art. 1 della legge 20/94 e successive modifiche, nonché alla stregua dei criteri di economicità e di efficacia di cui all'art. 1, primo comma, della legge 241/90, come modificata dalla legge 15/2005.

PROPONE

Ai sensi l'art. 76 comma 2 lett. b), punto 2 del D.Lgs 36/2023 e ss.mm.ii, e per i motivi in narrativa esposti che si intendono integralmente confermati di:

- procedere ad affidare alla società Revvity Italia SpA il servizio di manutenzione e assistenza tecnica sul sistema Opera Phenix Plus System - periodo 01.04.2025 – 31.03.2028– CIG: B6D60C15A4;

- far gravare la suddetta spesa complessiva di € 178.351,00 oltre iva (22%) e cioè pari a € 217.588,22 iva inclusa graverà sul conto economico n. 503030101 dei seguenti esercizi finanziari:

  - 2025: € 44.587,75€ + iva 22% = € 54.397,06;
  - 2026: € 59.450,33 + iva 22% = € 72.529,41;
  - 2027: € 59.450,33 + iva 22% = € 72.529,41;
  - 2028: € 14.862.58 + iva 22% = € 18.132,35

La UOSD Ingegneria Clinica e Tecnologie e Sistemi Informatici curerà tutti gli adempimenti per l'esecuzione della presente deliberazione.

Il Dirigente della UOSD Ingegneria Clinica e Tecnologie e Sistemi Informatici

Giuseppe Navanteri

Il Direttore Generale

Visto	il decreto legislativo 30 dicembre 1992, n. 502 e s.m.i.;
Vista	la legge regionale 23 gennaio 2006 n. 2;
Visto	il decreto legislativo 16 ottobre 2003 n. 288 e il decreto legislativo 23 dicembre 2022 n. 200 "Riordino della disciplina degli Istituti di ricovero e cura a carattere scientifico";
Visto	l'Atto Aziendale adottato con deliberazione n. 153 del 19 febbraio 2019 ed approvato dalla Regione Lazio con DCA n. U00248 del 2 luglio 2019, modificato e integrato con deliberazioni n. 1254 del 02 dicembre 2020, n. 46 del 21 gennaio 2021 e n. 380 del 25 marzo 2021, approvate dalla Direzione Salute e Integrazione Socio-sanitaria della Regione Lazio, con Determinazione n. G03488 del 30 marzo 2021;
Visto	l'art. 3 comma 6 del D.lgs. 502/92 e successive modificazioni ed integrazioni, nonché l'art. 8 comma 7 della L.R. del Lazio n. 18/94.
In virtù	dei poteri di cui alla delibera IFO n. 160 del 18 febbraio 2025 inerente l'insediamento del Direttore Generale Dott. Livio De Angelis;
Preso atto	che il Dirigente proponente il presente provvedimento, sottoscrivendolo, attesta che lo stesso a seguito dell'istruttoria effettuata, nella forma e nella sostanza è totalmente legittimo e utile per il servizio pubblico, ai sensi dell'art. 1 della legge 20/94 e s.m.i., nonché alla stregua dei criteri di economicità e di efficacia di cui all'art. 1, primo comma, della legge 241/90, come modificata dalla legge 15/2005.
Visto	il parere favorevole del Direttore Amministrativo e del Direttore Sanitario Aziendale;

ritenuto di dover procedere;

Delibera

di approvare la proposta così formulata concernente *"AFFIDAMENTO, SECONDO L'ART. 76 COMMA 2 LETT. B PUNTO 2) DEL D.LGS. 36/2023, ALLA SOCIETA' REVVITY ITALIA SPA DEL SERVIZIO DI MANUTENZIONE ED ASSISTENZA TECNICA SUL SISTEMA OPERA PHENIX PLUS SYSTEM OCCORRENTE ALLA UOC DI RICERCA TRASLAZIONE ONCOLOGICA IRE DEGLI IFO – PERIODO 01.04.2025 - 31.03.2028 - CODICE CIG: B6D60C15A4"* e di renderla disposta.

Il Direttore Generale

Dott. Livio De Angelis

Documento firmato digitalmente ai sensi del D.Lgs 82/2005 s.m.i. e norme collegate

ACQUISIZIONE DEL SERVIZIO DI MANUTENZIONE ED ASSISTENZA TECNICA FULL RISK SUL SISTEMA OPERA PHENIX PLUS SYSTEM INSTALLATO PRESSO I LABORATORI DELLA MEDICINA MOLECOLARE DEGLI IFO.

Io sottoscritto MASSIMO MAGGIONI nato il 12/05/1975
Codice Fiscale MGGMSM75E12F205F in qualità di LEGALE RAPPRESENTANTE/AMMINISTRATORE DELEGATO
della ditta REVVITY ITALIA SPA con sede legale in MILANO
Via VIA V. GIOBERTI, 1 Codice Fiscale 00742090152

Con la presente manifesta il proprio interesse a partecipare alla procedura di selezione in oggetto, pertanto dichiaro sin da ora di essere in possesso dei requisiti generali di cui all'art. 94 del D.Lgs. 36/2023

A tal fine vengono descritte di seguito le caratteristiche tecniche del servizio che sarà oggetto di eventuale fornitura:
(*di seguito specificare le caratteristiche tecniche e funzionali del servizio oggetto di fornitura*)

Servizio di manutenzione ed assistenza tecnica full risk sul sistema Opera Phenix Plus come specificato nella documentazione in allegato 2024 (Revvity Service Contracts Flyer - Life Sciences.pdf)_____
Per i dettagli tecnici si rinvia alle seguenti schede tecniche allegate:

Opera Phenix Plus Site Readiness Instructions.pdf

Data

Firma

_____

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Soluzioni di assistenza complete per ottimizzare la produttività del tuo laboratorio.

I contratti di assistenza tecnica Revvity forniscono una copertura affidabile per migliorare la produttività.

Riduci al minimo i rischi di inattività con una manutenzione efficace

Assicurati che gli strumenti siano sempre operativi e funzionanti con servizi di manutenzione preventiva di Revvity. I nostri contratti sono studiati per ridurre al minimo i tempi di inattività grazie a controlli regolari e rapida risoluzione dei problemi.

Assistenza rapida in loco

In qualità di cliente a contratto, potrai beneficiare di rapida assistenza in loco da parte dei nostri tecnici specializzati. La nostra solida catena di fornitura di ricambi garantisce una rapida risposta: avrai la certezza di un servizio tempestivo nel momento di maggior bisogno.

Tranquillità e certezza del budget

Un contratto di assistenza Revvity garantisce la massima tranquillità, riducendo le incognite e fornendo un chiaro piano degli investimenti. Ci assumiamo i cost risks, offrendoti vantaggi di tipo assicurativo.

Scegli la copertura più adatta al tuo laboratorio:

Signature

Per i laboratori in cui ottimizzare i tempi di attività dello strumento è fondamentale per le prestazioni. Priorità di risposta per la massima resa.

Assure

Per i laboratori che desiderano proteggersi da interruzioni impreviste; la prima riparazione è inclusa.

Maintain

Per i laboratori che desiderano ottimizzare le prestazioni degli strumenti è essenziale una manutenzione preventiva regolare.

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Contratti di assistenza tecnica	Signature	Assure	Maintain
Obiettivo di tempo di risposta in loco	3 giorni	5 giorni[1]	-
Manutenzione Preventiva Ordinaria (manodopera e viaggio)	√	√	√
Ricambi Manutenzione Preventiva Ordinaria	√	√	√
Supporto remoto	√	√	√
Riparazioni (manodopera e viaggio)	√	Prima riparazione compresa, per le successive sconto del 10%	10% di sconto
Parti di ricambio	√	Prima riparazione compresa, per le successive sconto del 10%	10% di sconto
Aggiornamenti software (solo per correzioni di bug)	√	-	-
Sconto sulla formazione	10%	5%	5%
Manutenzione Preventiva addizionale	Opzionale	Opzionale	Opzionale
Qualificazione operativa (OQ)[2]	Opzionale	Opzionale	Opzionale

[1]Il tempo di risposta si applica solo alle riparazioni incluse nel contratto.

[2]OQ disponibile per strumenti selezionati.

Tecnici esperti e manutenzione preventiva di qualità

I nostri tecnici esperti si impegnano a risolvere rapidamente i problemi e a eseguire una manutenzione preventiva (PM) di alta qualità, riducendo il rischio di guasti futuri e garantendo prestazioni ottimali dello strumento.

Supporto e formazione completi

Grazie a contract manager dedicati come unico punto di contatto, potrai individuare con il supporto del nostro personale la soluzione contrattuale più opportuna. I nostri Tecnici di assistenza e Specialisti delle applicazioni offrono formazione e supporto applicativo, migliorando la competenza del tuo team e l'utilizzo degli strumenti.

Principali vantaggi dei contratti di assistenza Revvity

- Protegge dai costi in caso di guasti imprevisti dello strumento
- Garantisce prestazioni ottimali dello strumento
- Aiuta a controllare i costi di servizio
- Garantisce risultati accurati e riproducibili
- È conforme alle norme e ai regolamenti vigenti

Scegli il livello di copertura più adatto al tuo laboratorio e contattaci oggi stesso per un preventivo.

Austria, Germania e Svizzera

servicecontracts.dach@revvity.com

Francia, Italia e Spagna

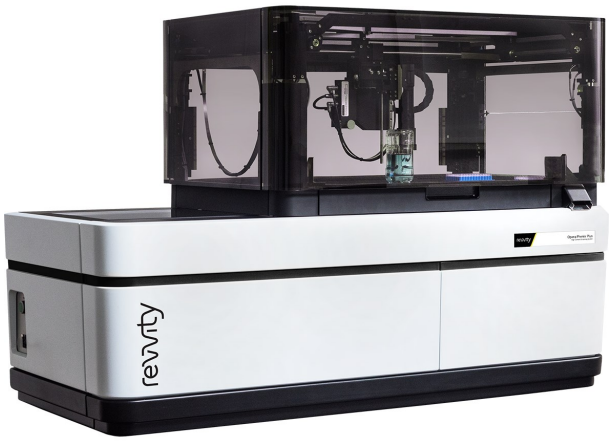
servicecontracts.south@revvity.com

Scansiona il codice QR per ulteriori informazioni.

SITE READINESS INSTRUCTIONS

Opera Phenix® Plus

High Content Screening System



Revision H
For Research Use Only.
Not for Use in Diagnostic Procedures.

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Release History

Revision	Publication Date
H	2024-09-27

Service Contact
Information: https://www.revvity.com
Support: https://www.revvity.com/contact-us

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Harmony is a registered trademark of Revvity, Inc.
plate::handler is a trademark of Revvity, Inc.
plate::works is a trademark of Revvity, Inc.
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Xeon is a registered trademark of Intel Corporation
Microsoft is a registered trademark of Microsoft Corporation
Internet Explorer is a registered trademark of Microsoft Corporation
Windows and Windows Vista are registered trademarks of Microsoft Corporation
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Contents

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1 Introduction

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This document describes the dimensions, installation and IT requirements of the Opera Phenix Plus High Content Screening System.

Order Review

Please review this order. Record any discrepancies between the Opera Phenix Plus order and your purchase order, along with any agreements or commitments made by your Revvity sales representative that are NOT listed on the order. Let your sales representative know about these discrepancies and/or commitments with your Site Readiness confirmation.

Notice

The last page of this document needs to be filled and sent back to your Revvity Sales Representative via fax/email. The Opera Phenix Plus will not be shipped until confirmation fax/email has been received by Revvity.

The Way of Your Opera Phenix Plus

1. Manufacturing of main unit: To achieve maximum robustness, the basic unit of your Opera Phenix Plus is manufactured within a small series.
2. You receive the Site Readiness document.
3. Customization: Your Opera Phenix Plus is equipped with the features you ordered.
4. Internal Acceptance Test (IAT)
   To assure that all components of your Opera Phenix Plus work within the specifications, the performance of the whole system is checked thoroughly.
5. Packaging: All devices and accessories are packed in specially designed transport boxes.
6. You send the Site Readiness confirmation form to Revvity.
7. Pick up: The packed Opera Phenix Plus is picked up by our co-operating shipper.
8. Delivery to you: Direct transport by truck or transport by air cargo.
9. Setting up by Service: Your system is unpacked, installed and set up by Revvity Service.
10. Site Acceptance Test (SAT)
    Our Field Service engineer will test the instrument in order to ensure that its performance meets manufacturing specifications.

    Note: The SAT procedure is not intended as a substitute for an IQ/OQ qualification process. We will not provide an IQ/OQ qualification document for the Opera Phenix Plus instrument. We recommend a Revvity service contract for keeping up and confirming of proper functionality of the instrument during its life time.
11. Familiarization: After an introduction and device familiarization by our Field Service engineer you can start working with your new Opera Phenix Plus.
12. On-site user training: We offer an additional advanced user training upon request.

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2 Requirements

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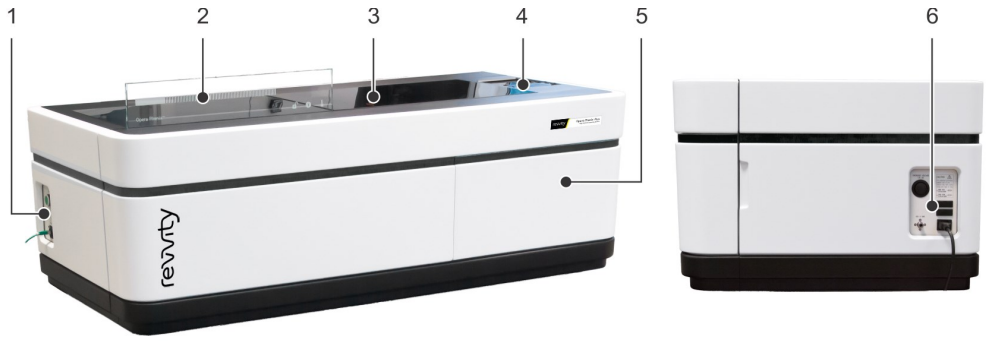
2.1 Instrument Overview

Base Instrument



1. Controls and connections (left)
   Network connection, power switch
2. Status display
3. Lid
   Access to objectives and sample chamber
4. Transfer position
   Load/eject sample plate
5. Front door
   Access to bottles of water immersion system / humidity control
6. Controls and connections (right)
   Manual release for lid, CO_2 connection, mains connection, fuses

Optional Pipettor

1. Pipettor housing front door
   Access to pipettor, instrument deck and instrument lid
2. Pipettor housing side door
   Access to transfer positions and tip boxes (also by robot in case of automated env.)
3. Pipettor head
4. Status display
5. Reagent reservoirs
6. Tip disposal
7. Transfer positions and tip boxes
8. Instrument deck and instrument lid

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2.2 Computer (Harmony PC)

Computer specifications are subject to change without notice.

Component	Configuration
Processor	Intel® Xeon® ≥ 16 Cores
Operating system	Microsoft® Windows® 10, 64 bit
RAM	≥ 96 GB
Graphic card	NVIDIA® RTX (≥ A4000 with 16 GB)
Network interface	10 Gigabit Ethernet
Hard drive	36 TB
Monitor	≥ 34" LCD

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2.3 Dimensions

The Opera Phenix Plus system consists of Opera Phenix Plus device, Harmony PC and monitor/keyboard cart. The setup and installation options are described in the following chapters.

Notice

The Opera Phenix Plus is sensitive to vibrations. Blurred images can be the consequence.

- *Put the Opera Phenix Plus on a very stable bench or table.*
- *Do not put other devices on the same table which cause vibrations (e.g. a centrifuge).*
- *Avoid any shocks or vibrations during measurements.*

Component	Size [cm] (W×D×H)	Size [in]	Weight [kg]	Weight [lb]
Opera Phenix Plus *Instrument height (sample lid opened)*	138 × 66 × *85*	55 × 26 × *34*	270-300	595-662
Opera Phenix Plus with optional pipettor *Instrument height (housing closed/opened)*	138 × 66 × *95/138*	55 × 26 × *38/55*	320-350	705-772
Harmony PC	17 × 43 × 41	7 × 17 × 17	17	38
Monitor/Keyboard Cart (keyboard tray in/out)	67 × 58/74	26 × 23/29	41	91
Heavy Duty Lab Cart (optional)	140 × 80 × 78	56 × 32 × 31	112	247
	The table will come on 4 feet, 22 cm² per single foot.			
Opera Phenix Plus + plate::handler FLEX (optional)	220 × 80 × 181	87 × 32 × 71	116 (without instrument)	256
Opera Phenix Plus + plate::handler FLEX + incubator (optional)	269 × 80 × 181	106 × 32 × 71	240 (without instrument)	529
Opera Phenix Plus with pipettor + plate::handler FLEX (optional)	220 × 80 × 186	87 × 32 × 73	152 (without instrument)	335
Opera Phenix Plus with pipettor + plate::handler FLEX + incubator (optional)	269 × 80 × 186 (overall)	106 × 32 × 73	266 (without instrument)	586

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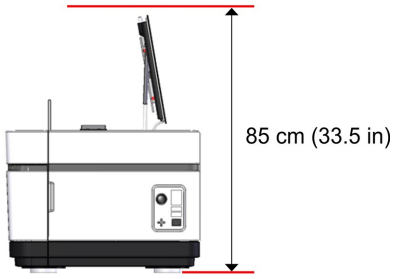
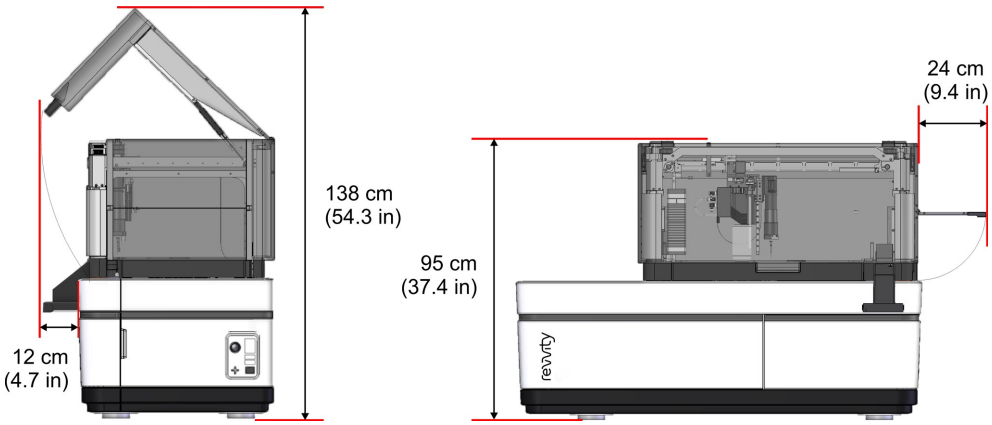
Instrument Height

Please note that you will need some space above the instrument for opening the sample lid.

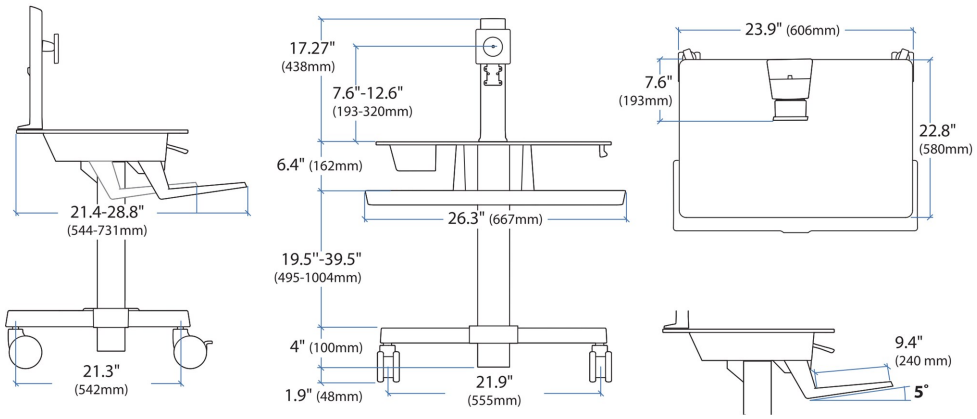


With Optional Pipettor

Please note that you will also need some additional space for opening the front door and side door of the pipettor housing.



Monitor/Keyboard Cart



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2.3.1 Installation on Revvity Heavy Duty Lab Cart

We recommend installing the Opera Phenix on the optionally available Heavy Duty Lab Cart. It is a stable basis for the instrument and especially designed to carry the Opera Phenix. Since the table is rollable you can easily move the whole system, if necessary. Behind the table doors there is plenty of space for the Harmony PC and other accessories. Positioning brackets allow secure and accurate connection to Opera Phenix Plus automation upgrades.

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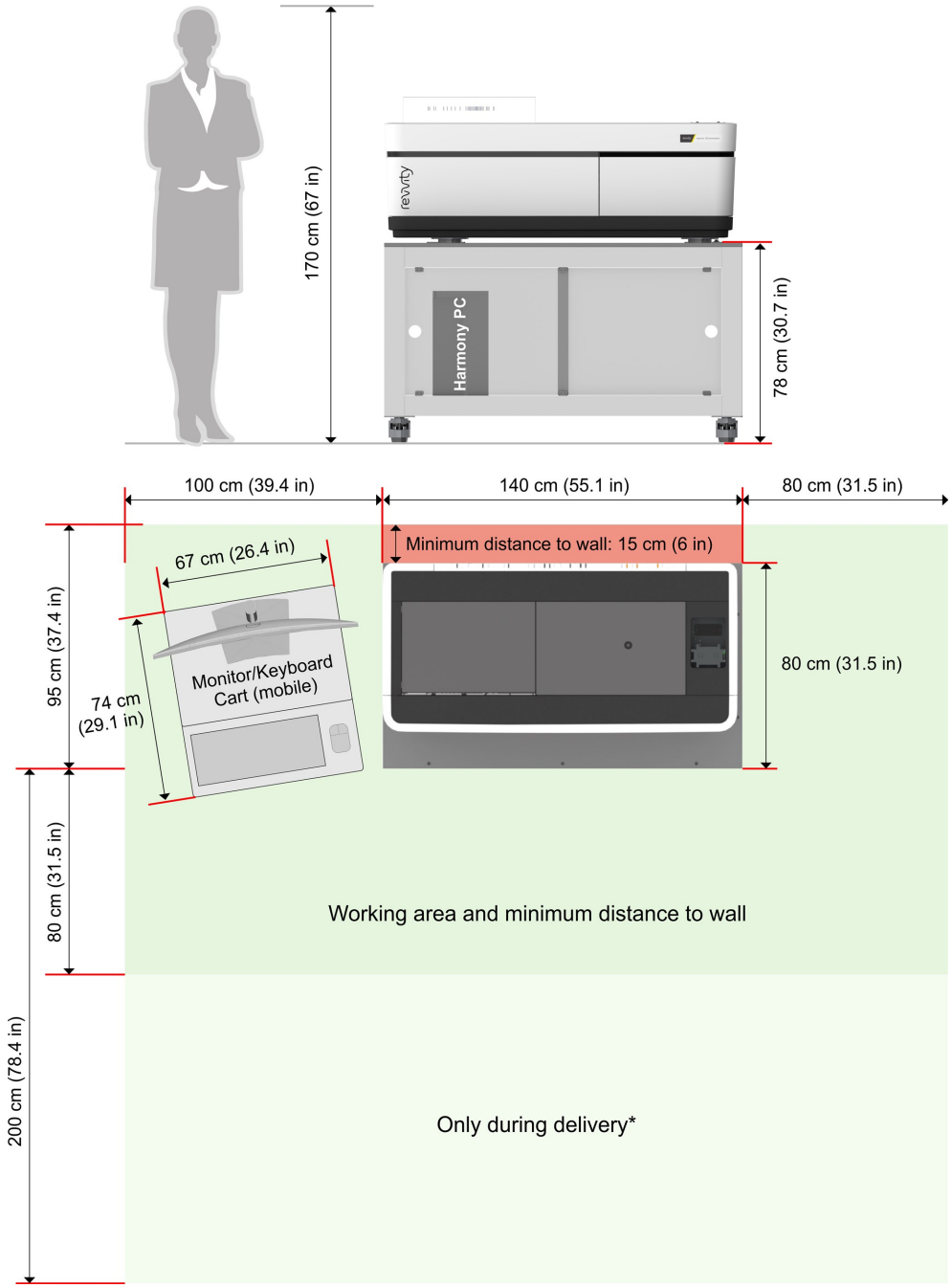

* If the space required during delivery is not available in the lab, installation can also take place in a different room, as long as the table can be rolled to the destination lab.

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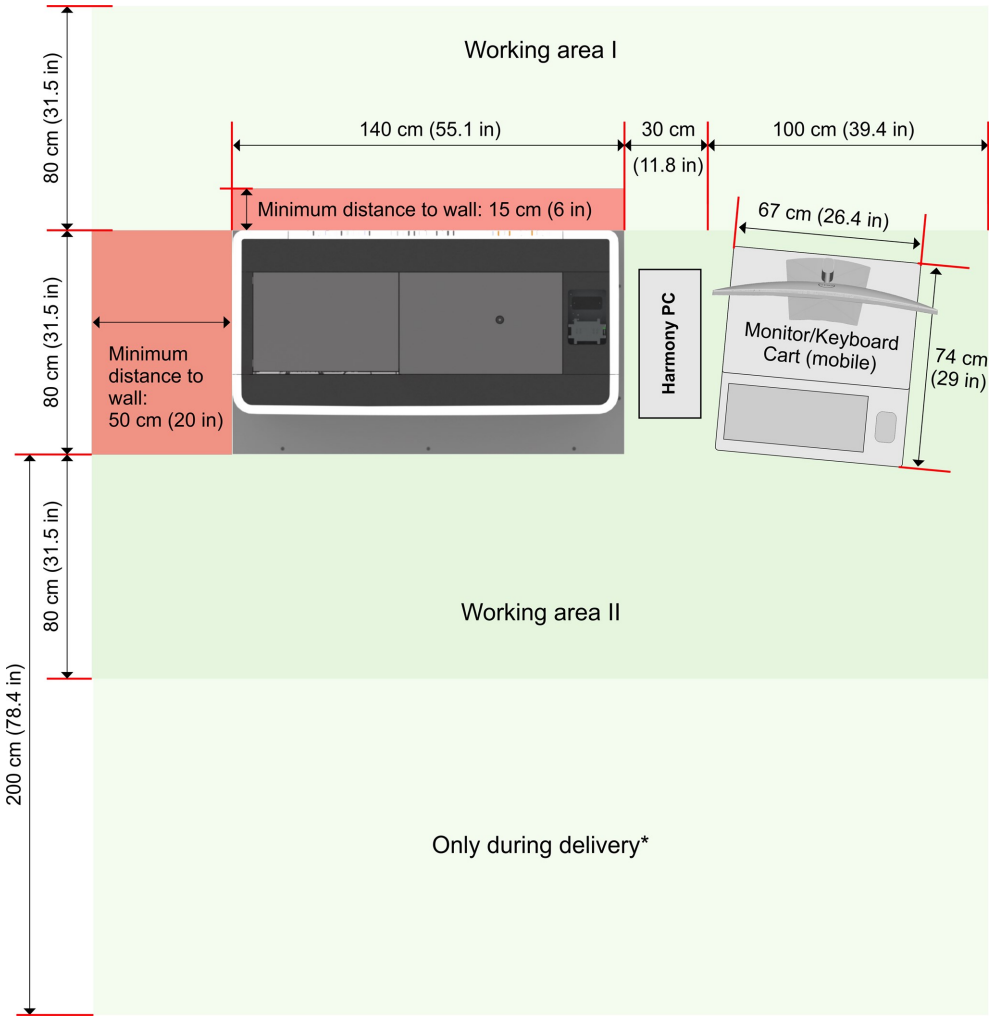
2.3.2 Installation on Table (Free-standing)

The table should be rollable, if possible. If it is not rollable, “Working area I” will be required during service visits.



* If the space required during delivery is not available in the lab, installation can also take place in a different room, as long as the table can be rolled to the destination lab.

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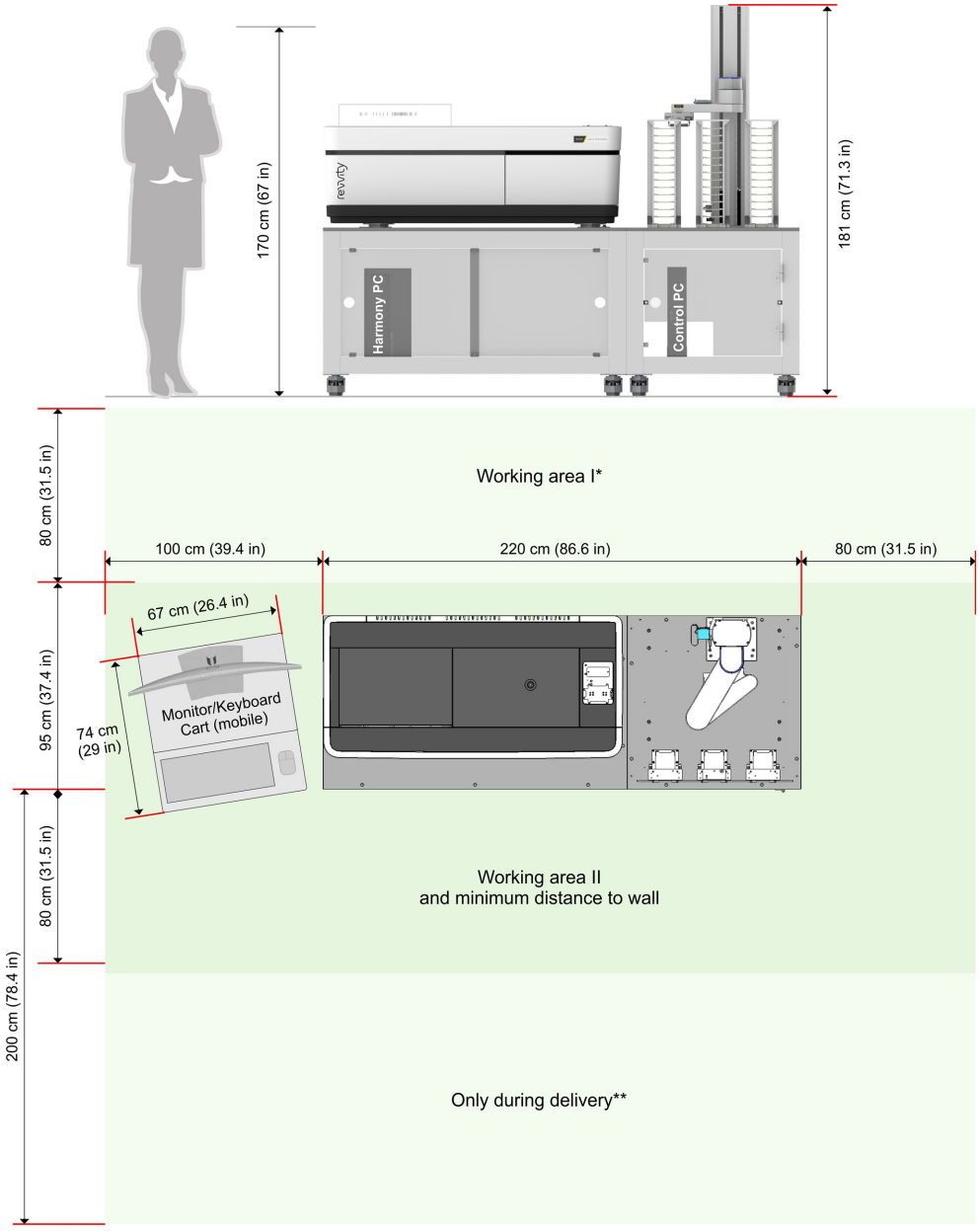
2.3.3 Installation with Automation Upgrade

With the optional automation upgrade, the Opera Phenix Plus and the plate::handler FLEX robot are installed on the provided tables. An installation on tables provided by the customer is not possible.

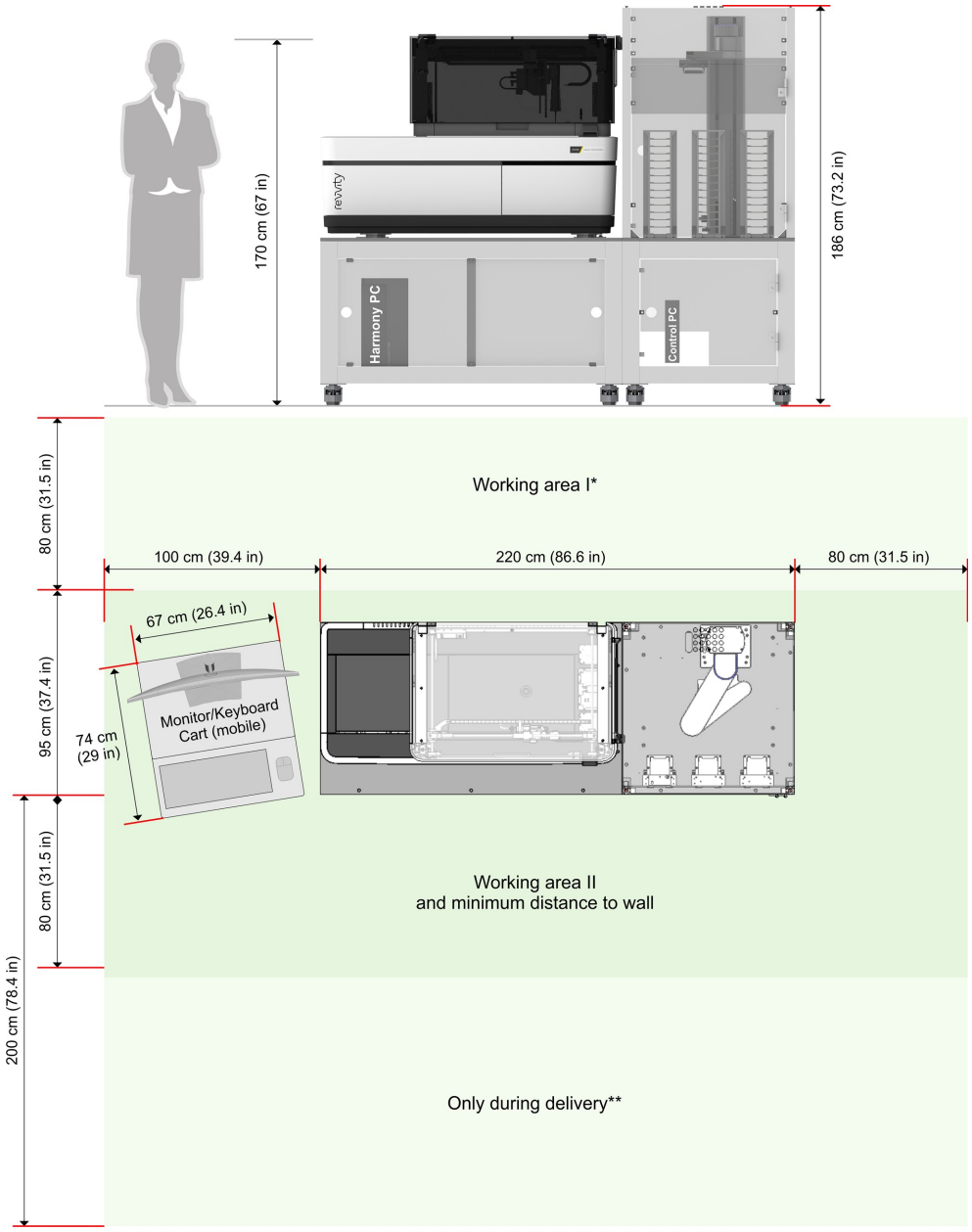
2.3.3.1 Opera Phenix Plus + plate::handler FLEX



* "Working area I" is required during service visits. The depth of this area can be reduced from 80 to 15 cm if the automation system consists only of the plate:handler robot (no incubator) and if the entire system is rollable.

** If the space required during delivery is not available in the lab, installation can also take place in a different room, as long as the table can be rolled to the destination lab.

2.3.3.2 Opera Phenix Plus with Pipettor + plate::handler FLEX



* "Working area I" is required during service visits. The depth of this area can be reduced from 80 to 15 cm if the automation system consists only of the plate:handler robot (no incubator) and if the entire system is rollable.

** If the space required during delivery is not available in the lab, installation can also take place in a different room, as long as the table can be rolled to the destination lab.

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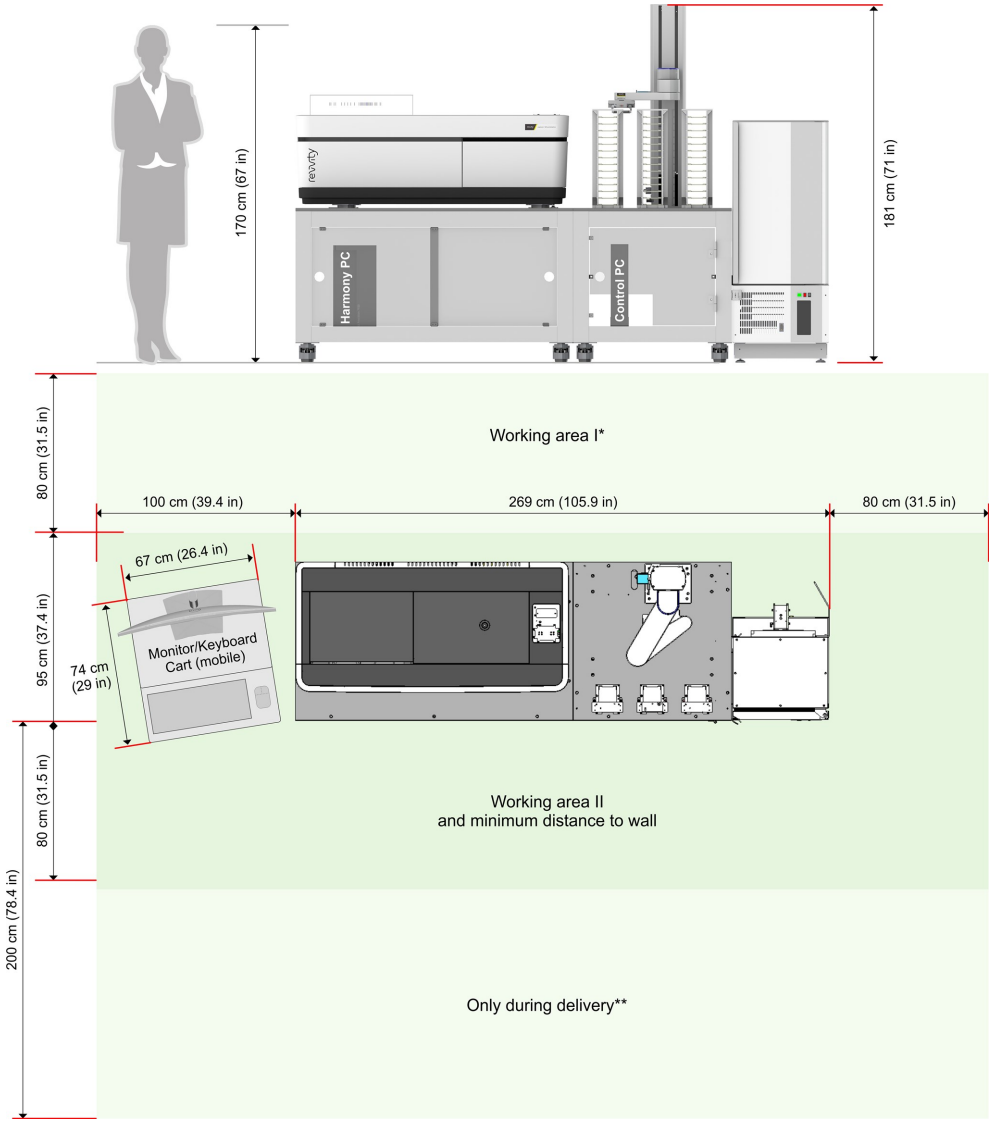
2.3.3.3 Opera Phenix Plus + plate::handler FLEX + Incubator

For requirements of the optional incubator see also chapter 2.8.4 .



* "Working area I" is required during service visits.

** If the space required during delivery is not available in the lab, installation can also take place in a different room, as long as the table can be rolled to the destination lab.

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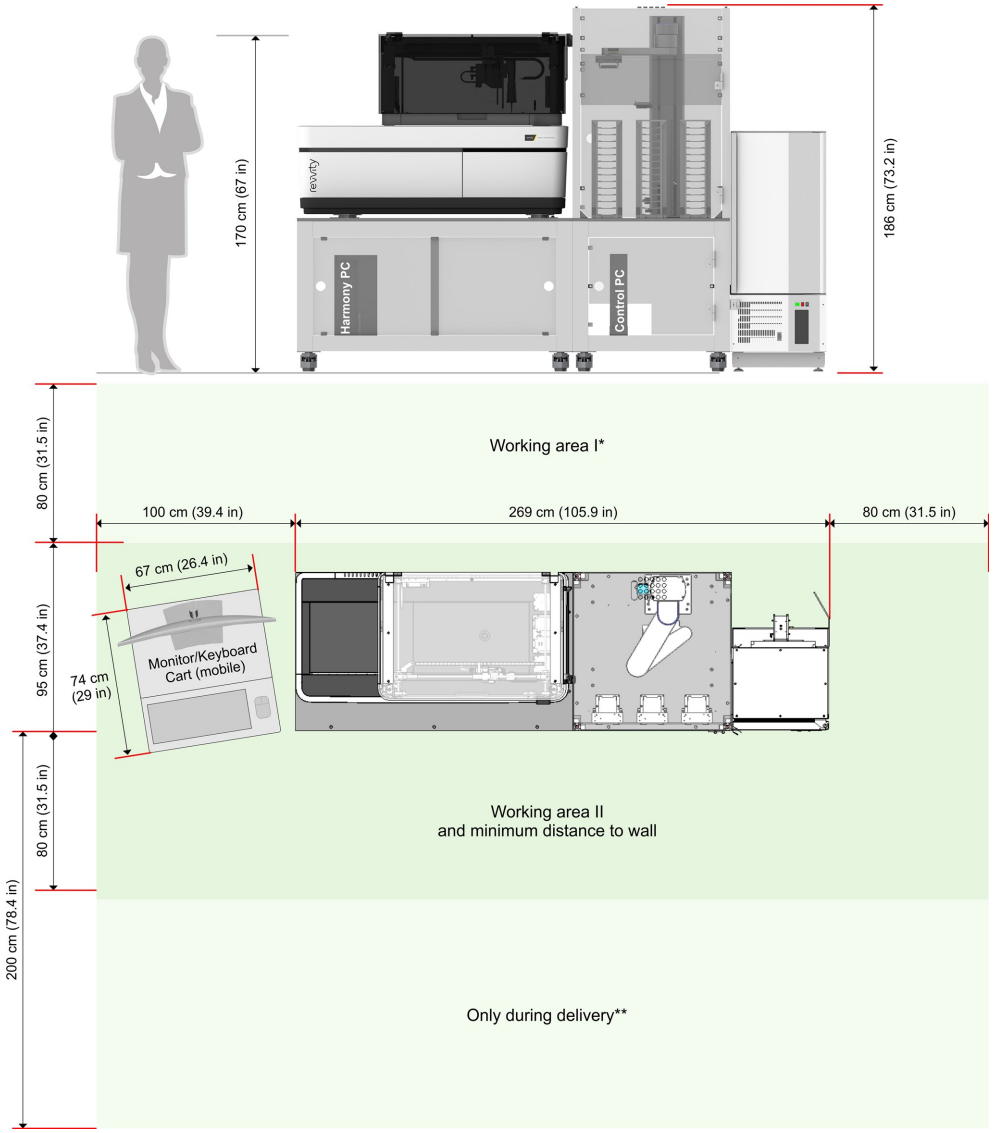
2.3.3.4 Opera Phenix Plus with Pipettor + plate::handler FLEX + Incubator

For requirements of the optional incubator see also chapter 2.8.4 .



* "Working area I" is required during service visits.

** If the space required during delivery is not available in the lab, installation can also take place in a different room, as long as the table can be rolled to the destination lab.

2.4 Electrical Requirements

One individual power socket (separate circuit) is required for each system component (see below). Wall sockets must be accessible to the operator in order to disconnect the devices from the mains in case of emergency.

Device	Power Specification	Power Consumption (Max.)
Opera Phenix Plus	100 - 240 V, 50 - 60 Hz	1500 VA
Harmony PC	100 - 240 V, 50 - 60 Hz	1350 W
Monitor	100 - 240 V, 50 / 60 Hz	180 W

The table indicates the max. power consumption of the devices. During normal operation the Opera Phenix Plus system (consisting of instrument, PC and monitor) has a typical power consumption of 800 W (2730 BTU/hr).

With Automation Upgrade

Device	Power Specification	Power Consumption (Max.)
plate::handler FLEX robot	1-phase 100-240 V, 50-60 Hz	365 VA
plate::handler FLEX control PC	1-phase 100 - 240 V, 50-60 Hz	300 VA
Liconic Incubator (STX44)	1-phase 120 V / 60 Hz or 1-phase 230 V / 50 Hz	720 VA

2.4.1 Cable Lengths

- The power cords for instrument and Harmony PC as well as all monitor cables (Display Port, USB and power cord) are delivered with a length of ≥ 5 m (197 in).
- The power cords of the Automation Upgrade are delivered with a cable length of ≥ 2 m (79 in). Most cables have a length of 2.5 m (98 in).

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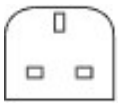
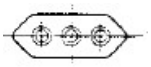
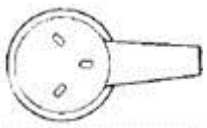
2.4.2 Country Kits

The instrument will be delivered with the corresponding Country Kit for your location. It includes power cords suitable for your country and a keyboard with a corresponding layout.

Notice

Use only the power cords provided by Revvity. The images and descriptions of the power plugs only illustrate the plug form which will be delivered. They are not intended as full specification of the power cord.

Country Kit	Used for	Keyboard layout	Power plug	Plug type/norm
HH14001601 (DE)	Germany, Austria	DE QWERTZ		KC-015A IEC 60884-1
HH14001602 (UK)	UK, Ireland, Cyprus, Singapore, Malaysia	UK QWERTY		KC-036 BS 1363
HH14001603 (US)	USA, Canada	US QWERTY		KC-001 NEMA 5-15P UL817
HH14001604 (CN)	China	US QWERTY		KC-017 GB 2099/GB 1002
HH14001605 (IT)	Italy	IT QWERTY		CEI 23-16/VII (CEI 23-50)
HH14001606 (ES)	Spain	ES QWERTY		KC-015A IEC 60884-1
HH14001607 (FR/BL)	France, Belgium	AZERTY		KC-015A IEC 60884-1
HH14001608 (AUS/NZ)	Australia, New Zealand	US QWERTY		AS/NZS 3112 SAA/3
HH14001609 (IL)	Israel	QWERTY		SI 32 IL/3

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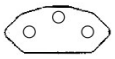
Country Kit	Used for	Keyboard layout	Power plug	Plug type/norm
HH14001610 (JP)	Japan	US QWERTY		JIS C 8303 498 GJ
HH14001611 (Export)	European Export	UK QWERTY		KC-015A IEC 60884-1
HH14001612 (CH)	Switzerland, Liechtenstein	DE QWERTZ, AZERTY		SEV 1011 SEV 6534/2
HH14001613 (Nordics)	Sweden, Finland, Denmark	US QWERTY		KC-015A IEC 60884-1
HH14001614 (East Europe)	Poland, Hungary	US QWERTY		KC-015A IEC 60884-1

2.5 Environmental Requirements

- Operating conditions:
  - Temperature: +20 °C to +25 °C (68 °F to 77 °F)
  - Relative humidity: < 70 % (non-condensing), with incubator < 45 % (non-condensing)
- Storage temperature: 10 °C to 40 °C (50 °F to 104 °F)
- Indoor use only
- A climate-controlled, clean and dust-free laboratory is recommended
- Atmospheric pressure up to 2000 m altitude
- Vibration-free work surface

2.6 Biosafety

Danger! Biohazard!

This device is designed for analyzing biological substances at biosafety level 1 and 2 (BSL-1 or BSL-2).

- *Do not use more hazardous substances due to limited possibilities of decontamination.*
- *Observe the safety instructions for the substances used.*
- *Observe the instructions for decontamination and cleaning.*
- *Always make sure to comply with national and international laboratory safety instructions.*
- *Always wear your personal safety equipment.*

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The processing of samples on the Opera Phenix covers only probes at biosafety level 1 and 2 (BSL-1 or BSL-2, CDC https://www.cdc.gov/labs/BMBL.html). BSL-1 includes “well-characterized agents not known to consistently cause disease in healthy adult humans, and of minimal potential hazard to laboratory personnel and the environment”. BSL-2 is “suitable for work involving agents of moderate potential hazard to personnel and the environment”.

All procedures performed on the Opera Phenix should be done carefully to minimize the creation of splashes. Biological substances higher than BSL-2 may not be used. As though developed for easy cleaning and low internal contamination, a sufficient sterilization and decontamination especially of internal mechanics and electronics cannot be guaranteed!

It is fully within the responsibility of the operator to ensure that all appropriate measures are taken to ensure that no substance processed by Opera Phenix exposes any hazard to the system, personnel or the environment.

As supplied, Opera Phenix does not provide any particular protection against the hazards evolving from aggressive chemicals, biological active substances or radioactive substances.

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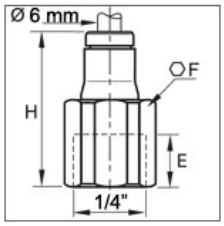
2.7 Gas Requirements (optional)

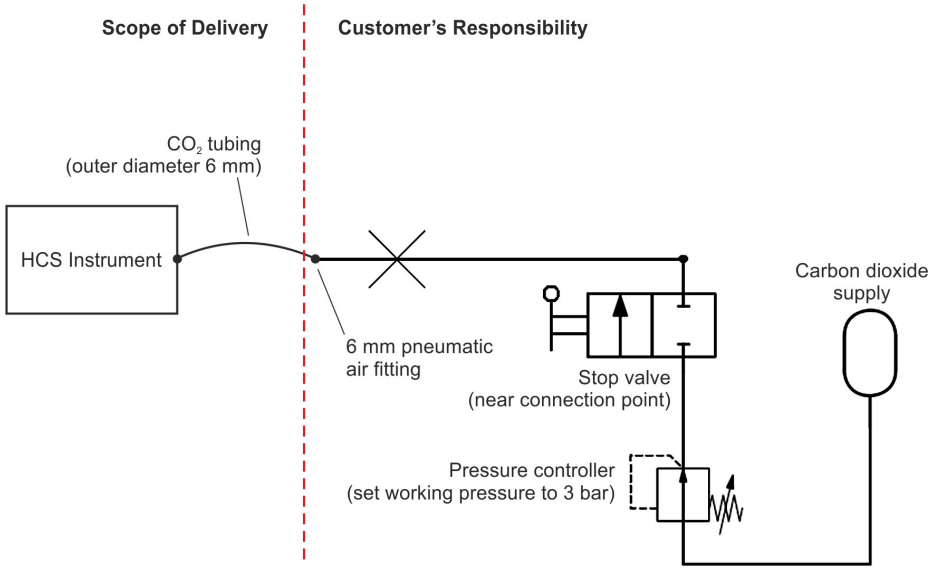
If your Opera Phenix Plus is equipped with the Environmental Control option, a carbon dioxide supply (including accessories) has to be provided by the customer as specified:

- CO_2 cylinder or CO_2 connection within 2 m range of the instrument's installation location
  - CO_2 purity: ≥ 99.5 %, particle-free
  - CO_2 flow: > 15 l/h
- Pressure controller (set working pressure to 3 bar)
- Stop valve (near connection point)
- 6 mm pneumatic air fitting
  (outer diameter of the instrument's CO_2 tubing is 6 mm)

  - If the customer's CO_2 supply connector is not 6 mm, a suitable adapter must be installed by authorized personnel.
  - Example distributor e.g. for G1/4" male (1/4" to 6 mm adapter) would be: www.legris.com, Part no. 36140613



This distributor offers also other standard fittings for adaptation to 6 mm tubing.



Connection diagram

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2.8 Delivery Requirements

2.8.1 General

- All delivered transportation crates will be opened and unpacked by Revvity Service.
- The customer will be responsible for the on site transportation of the containers from the receiving department right to the desired room position. For this purpose, the customer must provide a pallet-jack or forklift device.
- If the crates would not fit through the lab entry door, the crates can be placed right in front of the lab and the instrument will be picked up by Revvity Service by using of a special fork-lift. It must be guaranteed by the customer that the lab door will give a clear width of 900 mm (35.43 in). The floor way to the final bench position must be smooth and suitable for using the fork-lift.
- The remains of the wooden transportation crates will be disposed of by the customer.

2.8.2 Opera Phenix Plus

The following transport crates will be shipped to the customer:

- **Instrument Crate** (wooden crate)

  Dimensions (W × D × H): 176 × 84 × 136 cm (70 × 33 × 54 in)
  Weight: 344 kg (759 lb)

- **Accessories Crate** (wooden crate)

  Dimensions (W × D × H): 176 × 105 × 136 cm (70 × 42 × 54 in)
  Weight: 220 kg (485 lb)

- **Delivery Kit** (Flight Case)

  In order to perform the Opera Phenix Plus setup a special “Flight Case” on wheels with brakes will be shipped. After setting up the instrument the responsible service engineer will send the Delivery Kit back to Revvity.

  Dimensions (W × D × H): 118 × 79 × 166 cm (46 × 31 × 65 in)
  Weight: 130 kg (287 lb)

- **Heavy Duty Lab Cart** (optional, on pallet)

  Dimensions (W × D × H): 146 × 87 × 102 cm (58 × 34 × 40 in)
  Weight: 150 kg (331 lb)

- **Pipettor Crate** (optional, on pallet)

  Dimensions (W × D × H): 123 × 105 × 76 cm (49 × 42 × 30 in)
  Weight: 77 kg (170 lb)

2.8.3 Automation Upgrade (optional)

- **Automation Upgrade Crate #1** (wooden crate)
  plate::handler FLEX robot

  Dimensions (W × D × H): 122 × 75 × 46 cm (48 × 30 × 18 in)
  Weight: 58 kg (128 lb)
- **Automation Upgrade Crate #2** (on palette)
  Robot table and accessories

  Dimensions (W × D × H): 113 × 95 × 139 cm (45 × 38 × 55 in)
  Weight: 140 kg (309 lb)
- **Incubator Crate** (wooden crate, optional)
  Incubator STX 44-IC

  Dimensions (W × D × H): 83 × 79 × 148 cm (33 × 31 × 58 in)
  Weight: 140 kg (309 lb)
- **Heavy Duty Lab Cart** (if not existing, on pallet)

  Dimensions (W × D × H): 146 × 87 × 102 cm (58 × 34 × 40 in)
  Weight: 150 kg (331 lb)

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2.8.4 Automated Incubator (plate::handler system)

In the case an optional automated cell incubator is included in the delivery of the plate::handler system the following additional site readiness requirements need to be considered:

Requirement		Cell Incubator Extension: Liconic STX 44-IC
Electrical		100V / 50Hz; 115V / 60Hz or 230V / 50Hz; switchable
Power consumption		600 W
CO_2 supply	Nominal pressure	0.5 bar
	Maximum flow rate	10 liter/minute (2.6 gallons/minute) (safety relevant, see note)
	Tubing	Use 4x6 mm PUR, PVC, Neoprene or Nylon tube for the low pressure connection. Do not use silicon or natural rubber tubing!
Size (W/D/H in mm)		485 / 535 / 1203
Weight		88 kg

Notice

It is your responsibility to ensure that the gas flow will not exceed the limit of the maximum gas flow. In case of leakages this could be safety relevant!

The cell incubator will be connected to the robot table and can be fixated on the lab floor by using two foot clamps.

2.9 Integration With Third-Party Automated Robotic Systems

If an Opera Phenix, Opera Phenix Plus or Operetta CLS instrument needs to be integrated into a non-Revvity automated robotic system, we offer development tools (SDK) for integrating Revvity instruments into an integrator's scheduling software.

The development tools (SDK) include device DLLs to drive Revvity HCS devices from the scheduling software. This enables executing pre-saved Harmony experiments into integrated procedures and operate Revvity instruments together with other equipment.

The development tools (SDK) and detailed documentation can be requested by the integrator from Revvity here: https://www.revvity.com/contact-us

Please note, the development tools do **not** have the following features:

- API to Harmony for controlling image analysis
- API for programmatic access to the database incl. images, evaluation results, users etc.
- A tool to develop your own image analysis algorithms to use in conjunction with Harmony based building block sequences

If the Opera Phenix Plus is equipped with an optional pipettor, the automation robot needs to reach into the pipettor housing through the side door / opening for exchanging sample plates, compound plates and tip boxes. To allow a robot to work within the pipettor housing, the side door of the pipettor housing must be opened. Opening this door is not automatable and requires user intervention. Depending on robot type and usage in such a scenario additional safety measures might be necessary. It is the responsibility of the integrator to provide a safety analysis and needed safety measures.

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3 IT Policy

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This chapter contains policies and general information about the IT infrastructure and rules for integration of the Opera Phenix System into any network environment.

Notice

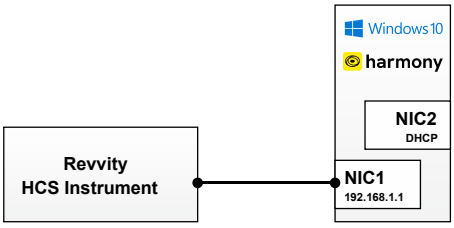
The purpose of the Opera Phenix IT Policy is to ensure the effective protection and proper usage of the computer systems belonging to the “Opera Phenix system”. The IT Policy will assist in maintaining systems at operational level. Contraventions of the IT Policy could seriously disrupt the operation of the “Opera Phenix system” and could involve Revvity support billable at the current service rate.

Notice

Revvity is not responsible for problems caused by violating the following policies. Any effort required to verify this type of problem is billable at the current service rate and is not covered by guarantee and/or service contract.

3.1 Network Integration

3.1.1 Overview



The “Opera Phenix System” is composed of:

- Opera Phenix device (cell imaging reader)
- Harmony PC (to control the Opera Phenix using the Harmony software)

Optional components (provided by the customer) may be:

- SAN / image server to store/archive images
- Office PCs (for an office installation of the Harmony software)
- Columbus or Signals Image Artist Server

Upgrade components (automation upgrade):

- plate::handler robot (for automated plate handling)
- plate::works PC (running the scheduling software plate::works)
- Network switch, 1 Gbit speed, provided by Revvity
- USB-Ethernet adapter

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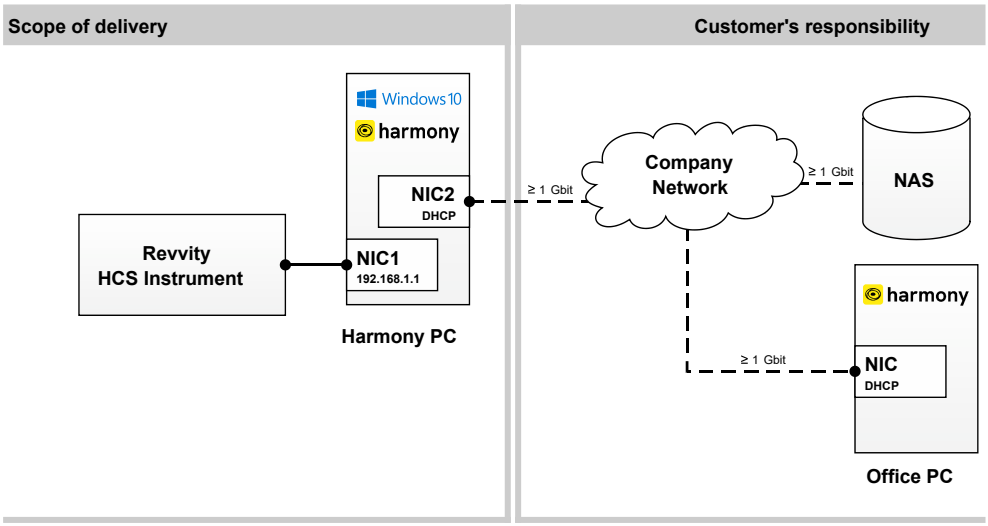
Notice

- The Harmony PC is a dedicated computer to control the Opera Phenix. This PC runs with Windows® 10 (64 bit), includes the database and cannot be substituted by any customer-supplied computer.
- The pre-installed operating system of the Harmony PC must not be reinstalled or replaced by any other version.
- The hardware of the Harmony PC must not be modified, replaced or extended (e.g. by additional network interface cards).
- The optional Columbus or Signals Image Artist software (especially the Acapella Server) may not be installed on the Harmony PC or on a PC with Harmony office installation.

General Network Requirements

- The subnet mask for all network adapters has to be 255.255.255.0.
- All network connections must be Gigabit Ethernet connections using ≥ CAT-5e cable. All devices shown in the following configuration examples must support Gigabit Ethernet.

3.1.2 Simple Integration

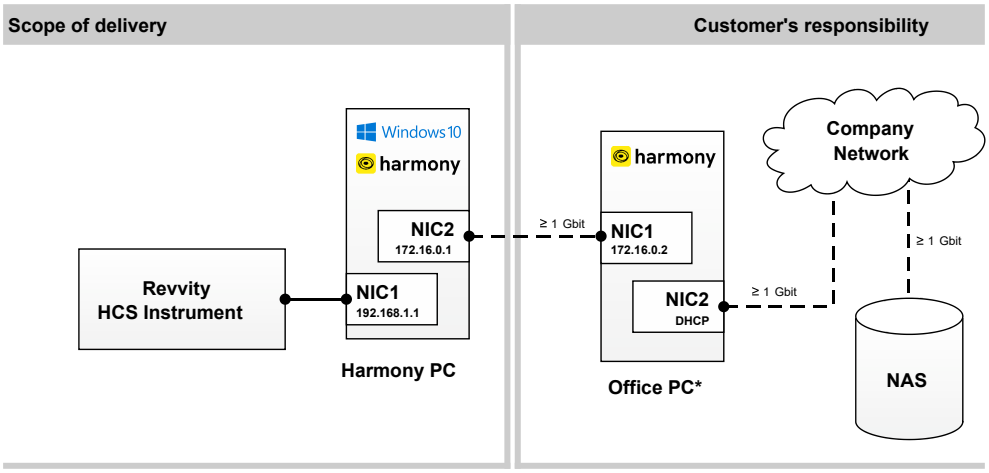


NIC: Network Interface Card – NAS: Network Attached Storage

3.1.3 Alternative Solutions

In the case where Windows® 10 is not allowed in the customer's company network, use one of the following solutions to isolate the “Opera Phenix network” from the company network.

3.1.3.1 Office PC as interface (small solution)



NIC: Network Interface Card – NAS: Network Attached Storage

* Special NIC configuration required

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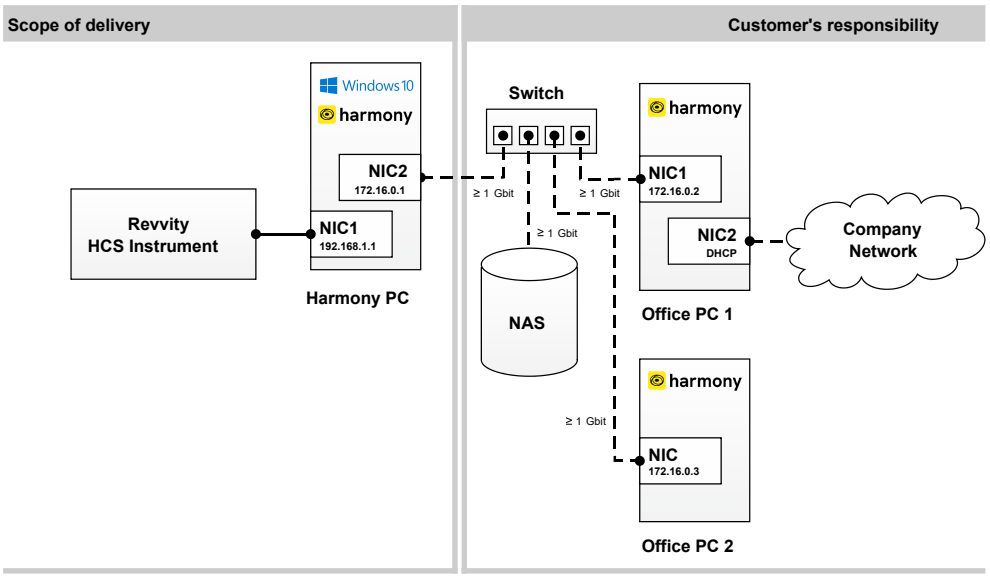
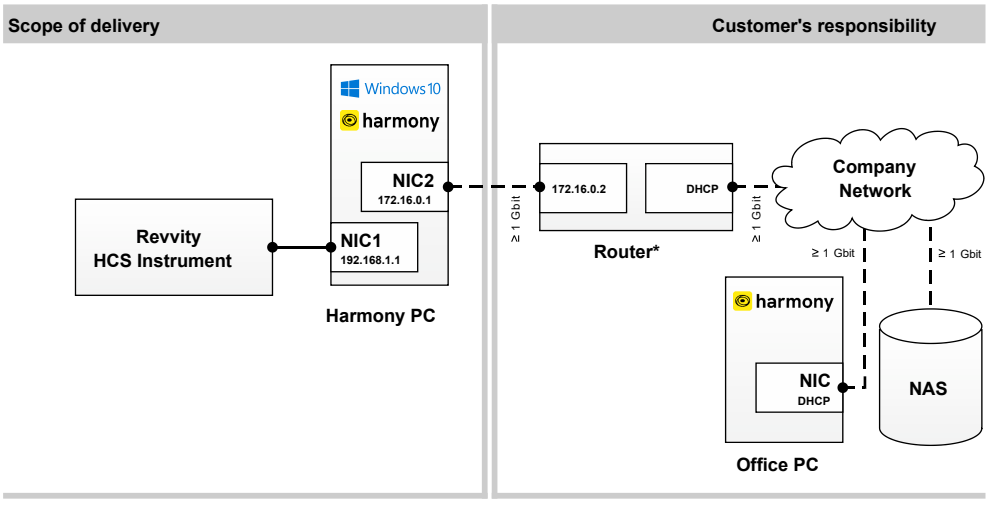
3.1.3.2 Office PC as interface (big solution)



NIC: Network Interface Card – NAS: Network Attached Storage

3.1.3.3 Router



NIC: Network Interface Card – NAS: Network Attached Storage

* Special configuration required

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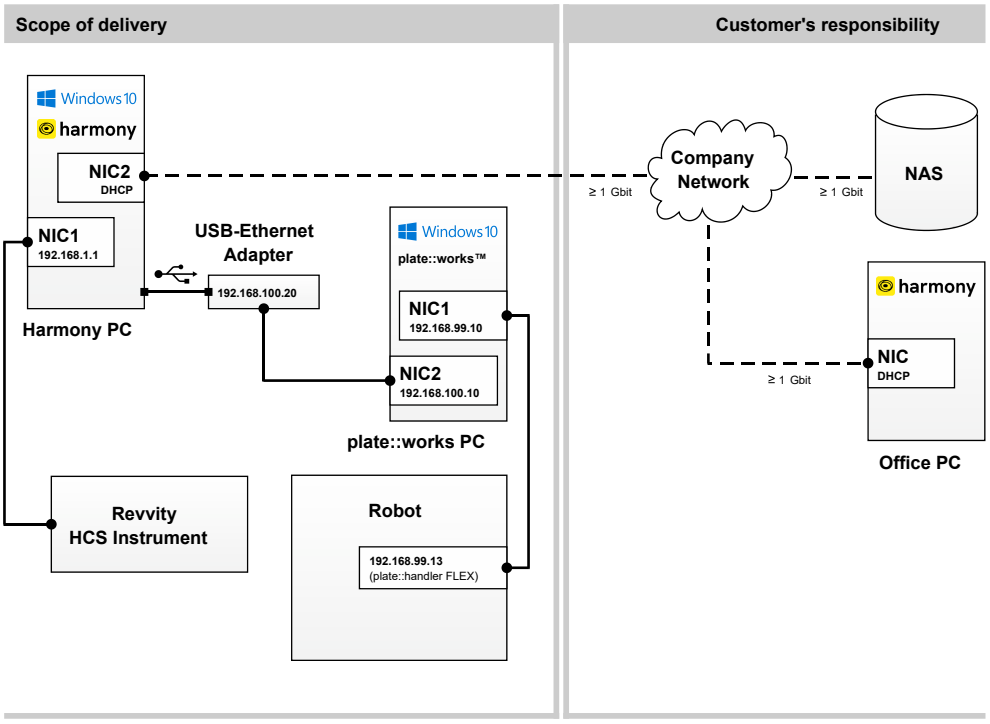
3.1.4 Automation Upgrade (plate::handler)

Notice

The plate::works PC is a dedicated computer to control the automated plate handling (via plate::works scheduling software). It runs with Windows® 10 (64 bit) and cannot be substituted by any customer-supplied computer.

- The computer may not be integrated into a domain.
- Anti-virus or malware protection software may not be installed on this computer.

3.1.4.1 Standard Configuration



NIC: Network Interface Card – NAS: Network Attached Storage

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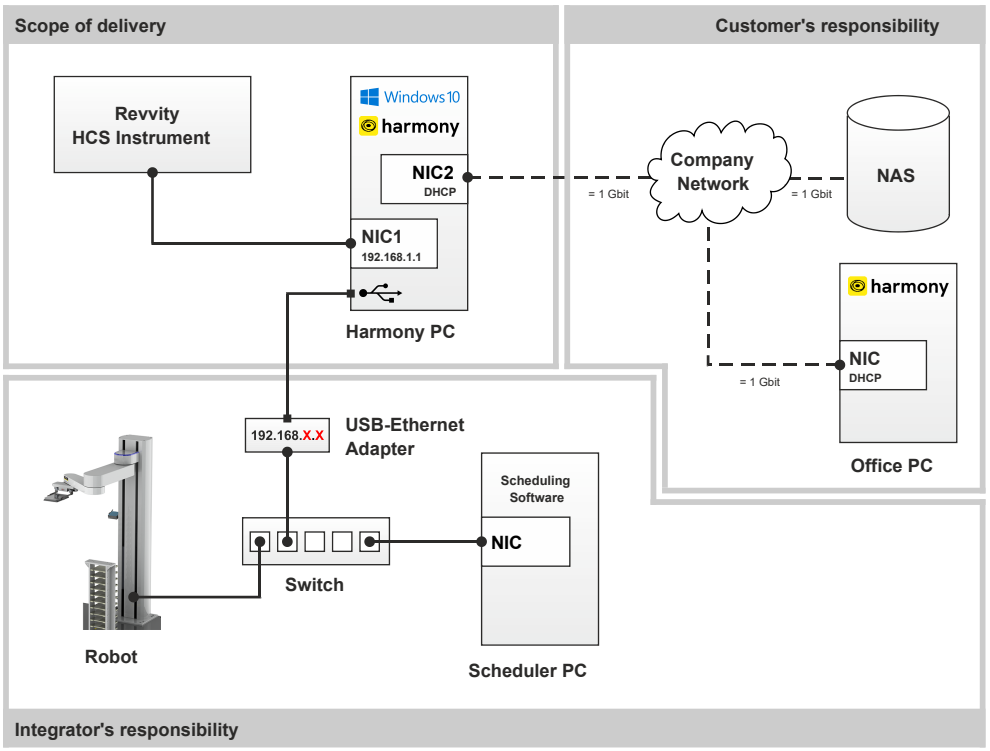
3.1.5 Automation Upgrade (non-Revvity)

If a Revvity HCS instrument is integrated into an automation environment by third party integrators, the correct network configuration is very important.



NIC: Network Interface Card – NAS: Network Attached Storage – X: Depends on integrator's subnet configuration

- Do not change the configuration of the network interface cards of the Harmony PC. Do not install a third NIC.
- Do not change the network connection between the instrument and the Harmony PC. The instrument must remain connected directly to NIC1 (high speed connection).
- Network connection to your automation environment is only possible via a separate USB-Ethernet adapter (not part of delivery, USB 2.0 / 100 Mbit or better).
  - Connect the USB-Ethernet adapter to the Harmony PC.
  - Log into the Harmony PC.
  - Configure a fixed IP address for the adapter (as specified in the illustration above).
  - Do not change any other network settings.
- The integration into the customer's company network (via NIC2) is optional, but it is necessary if the customer wants to use Harmony office installations and back up or relocate measurements and images to a server.

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3.1.6 Columbus or Signals Image Artist

The Columbus or Signals Image Artist image storage and analysis system is installed as a client-server system. The Columbus or Signals Image Artist Server is a dedicated computer which has to be integrated into the customer's network. Columbus or Signals Image Artist can be used via web interface on any PC within the network.

3.1.6.1 Network Configuration

Columbus or Signals Image Artist Server

- The Columbus or Signals Image Artist Server requires a free IP address in a local area network:
  - Either a **static IP address** with a **host name** provided by local network admin,
  - or an address provided by **DHCP**.
- The network settings of the Columbus or Signals Image Artist Server must be configured for your network:
  - Enter DNS server IP address(es)
  - Enter optional gateway IP address
- Add an entry for the Columbus or Signals Image Artist Server on the DNS server of your network, if access via host name is required.
- If there is a firewall between the server and the clients, the following ports must be opened.

  On the Columbus Server, the local ports have been set accordingly during setup.
  - TCP/22 – SSH – Remote access
  - TCP/80 – http – Columbus webapp
  - TCP/443 – https – Columbus webapp
  - TCP/8081 – http – Columbus SOAP webservice interface
  - TCP/4063-4064 – Columbus Java clients

  On the Signals Image Artist Server, the local ports have been set accordingly during setup.
  - TCP/22 – SSH – Remote access
  - TCP/80 – http – Columbus webapp
  - TCP/443 – https – Columbus webapp

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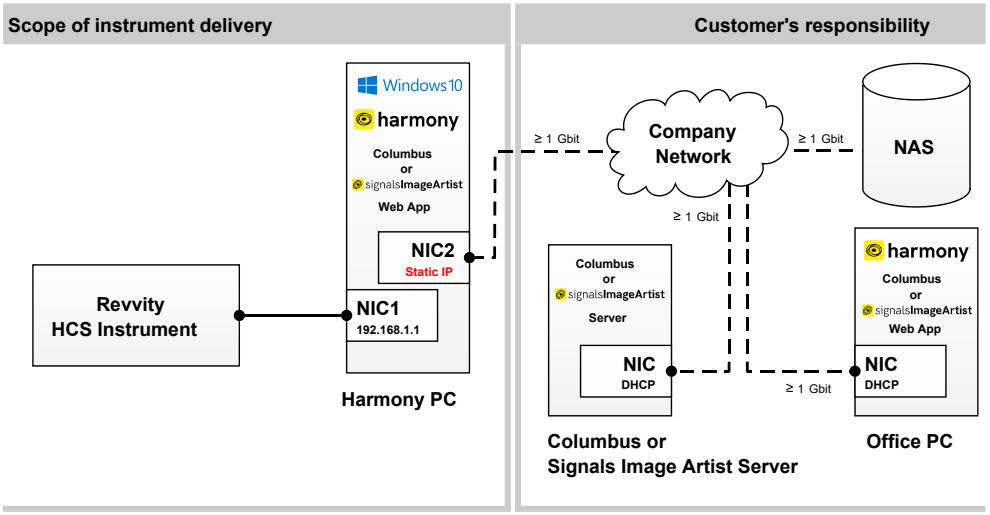
Communication between Columbus or Signals Image Artist and Harmony

Notice

To ensure proper communication between the Harmony software and Columbus or Signals Image Artist via the **Columbus Transfer** function of Harmony, it is essential to read the following instructions.

- For the Harmony workstation (instrument PC) a **static IP address** with **host name** must be configured (see also diagrams in the following chapter).
- The IP address and host name of the Harmony workstation must be known to the Columbus instance. It must be added as a new host to the **host configuration of the Columbus Server** (Network Services – Hostnames, /etc/hosts configuration file).
- The IP address and host name of the Harmony workstation must be known to the Signals Image Artist instance. It must be added as a new host to the **host configuration of the Signals Image Artist Server** (see “SignalsImageArtist-1.1_Installation-and-Administration.pdf”).

3.1.6.2 *Standard Configuration with Columbus or Signals Image Artist*



NIC: Network Interface Card – NAS: Network Attached Storage

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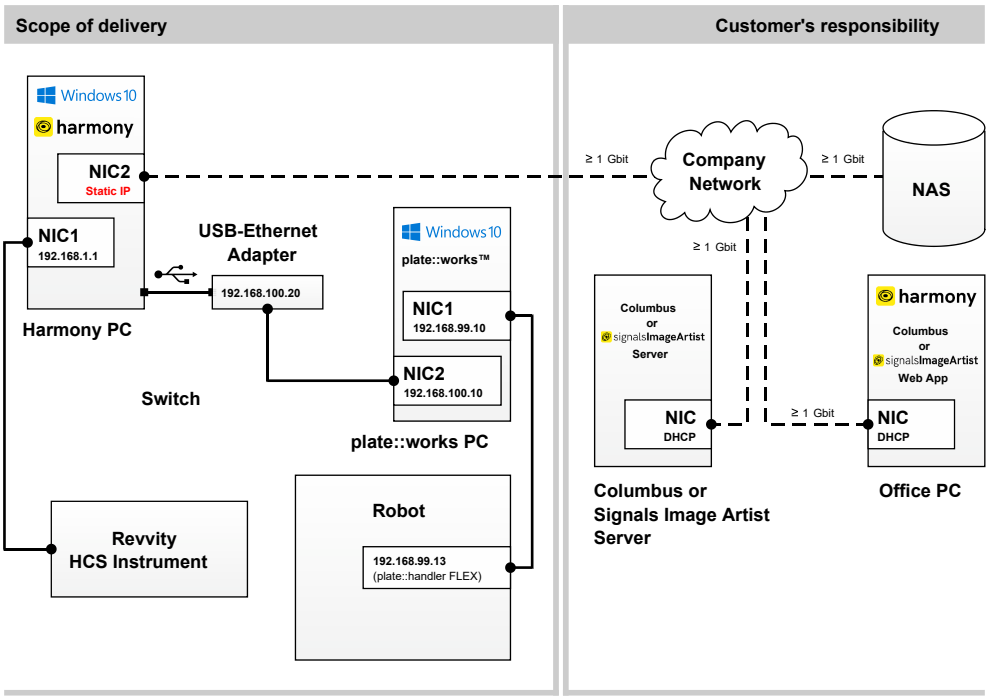
3.1.6.3 Automation Upgrade with Columbus or Signals Image Artist



NIC: Network Interface Card – NAS: Network Attached Storage

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3.2 Security Updates / Servicing Channel

The operating system of the provided device PC is **Microsoft Windows® 10 IoT Enterprise 2021 LTSC (Version 21H2)**.

- This version will receive regular **security updates** (supported until January 2032).
- It will skip any **feature updates** to ensure stability.
- Do not change the preset Servicing Channel (LTSC). This will not be supported by Revvity.
- The Harmony software has been tested with this Windows® version. This includes all security updates until the Harmony release date (see Release Notes).

For further details see the FAQ below.

What is Windows 10 IoT Enterprise?

As a part of the entire Opera Phenix system the device PC uses a Windows® 10 IoT Enterprise license. This is a full version of Windows® 10 that delivers enterprise manageability and security to IoT (Internet of Things) solutions. Windows® 10 IoT Enterprise is a binary equivalent to Windows® 10 Enterprise, so you can use the same familiar development and management tools as client PCs and laptops.

- https://docs.microsoft.com/en-us/windows/iot-core/windows-iot-enterprise

What is Long-term Servicing Channel (LTSC)?

For an HCS device it makes more sense that it is kept stable and secure than kept up to date with user interface changes.

- The LTSC servicing model prevents Windows® 10 Enterprise LTSC* devices from receiving the usual feature updates and provides only quality updates to ensure that device security stays up to date.

  * LTSB = Long-term Servicing Branch (recently renamed to LTSC, but still present in the name of previous releases)
- https://docs.microsoft.com/en-us/windows/deployment/update/waas-overview

How to get security updates?

- If the device PC is connected to the internet, you will be notified when new security updates are ready to be downloaded. After going to Windows Update, you can download and install the updates.
- Updates which require a restart will not take effect until the device PC is restarted manually. Please check regularly for corresponding notifications and restart the PC.

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- If the update behavior is not as described above, please open the Group Policy Editor (run "gpedit.msc"), verify the update settings and reset to the configuration below, if necessary. Administrator rights are required for this step. The "Windows Update" section can be found in this branch: "Computer Configuration – Administrative Templates – Windows Components – Windows Update".
  - "Configure Automatic Updates": Enabled + option 2 selected ("2 – Notify for download and notify for install")
  - "No auto-restart with logged on users for scheduled automatic updates installations": Enabled

  However, in the case of critical updates, Windows will ignore these settings and still restart automatically. You cannot prevent that.
- Check for Windows updates regularly and make sure that all available security updates have been downloaded and installed before starting a measurement. If you do not install pending updates for a long time, Windows will install them automatically and the restarting of your computer may interfere with measurements.
- To completely avoid unattended installation of security updates including reboots, you have two options (only recommended temporarily):
  - Disable Windows Server Update Services (WSUS)
  - Disable internet access during screening campaigns

Can I upgrade to a new LTSC release to get new features?

No, the license is only valid exactly for Microsoft Windows® 10 IoT Enterprise 2021 LTSC (Version 21H2).

3.2.1 Microsoft SQL Server

- Harmony 5.2 is using the SQL Server 2019. This is the only supported SQL Server version for Harmony 5.2.

3.3 Requirements for Harmony Installation on an Office PC

Notice

- Due to numerous differences in PC hardware, Revvity cannot guarantee that our software will run on a computer supplied by the customer, even if the system meets the minimum specifications described on the next pages. Revvity installation of a computer supplied by the customer is available for an additional fee. Revvity is not responsible for problems caused by unspecified system components, software, and/or accessories.
  Any effort required to verify this type of problem is billable at the current service rate. Revvity may not provide maintenance service on the computers supplied by the customer.
- It is the customer's responsibility to update office installations of the Harmony software (same version as on Harmony PC is required).
- Depending on your application and the amount of data produced, the system requirements (especially memory, number of processors) can be much higher than the following minimum requirements. This can apply, for example, to 3D analysis, object tracking or fast kinetics.
- If you work intensively with the Harmony database from an office PC, this can affect the performance of the Opera Phenix Plus system.

Basic:

- Microsoft Windows® 10 (≥ 1607), 64 bit, English
- Harmony USB drive (software & documentation)
- Harmony Office License (incl. USB dongle)
- Two free USB ports
- 2 GB free harddisk
- Ethernet connection to Harmony PC (≥ 1 Gbit, to connect to database)
- Administrator rights (only for the installation)
- Modern web browser (we recommend Microsoft Edge®), JavaScript® enabled, cookies allowed
- BIOS performance settings for optimal image analysis:
  - Hyperthreading: On
  - NUMA (non-uniform memory access): Off
- Display Language: English
- Region and Language Setting: English
- DPI setting: normal size (96 DPI)
- Display scaling (size of text etc.): 100 % recommended
- High contrast mode: Off

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Minimum:

- Intel® processor with 4 cores (Xeon®, Core™ i5, Core™ i7)
- 8 GB RAM
- Graphic card with 2 GB video memory
- Screen resolution of 1920 × 1200 (24")

Optimum:

- Intel® Xeon® processor(s) with ≥ 16 cores
- ≥ 96 GB RAM, min. 4 GB/core) – A balanced memory configuration where the cores have an identical memory population on all memory channels available is recommended. Please refer to the PC manufacturer's manual or their support.
- Recommended graphic card: NVIDIA® RTX A4000 (16 GB)
- Screen resolution of 3440 × 1440 (34")

3.4 Computer Systems

3.4.1 Network

Notice

The performance of the Opera Phenix Plus system depends very much on a fast (≥ Gigabit) and reliable network infrastructure. A permanent network connection is required between the various components (particularly Opera Phenix device, Harmony PC, Office PCs, image servers, Columbus Server, Signals Image Artist Server). In addition, your DNS server must be able to resolve each computer's name.

The Harmony PC can receive the network address from a DHCP server. The general configuration is to obtain the IP address automatically from a DHCP.

1. The usage of additional network adapters (unless provided by Revvity) in any computer of the "Opera Phenix System" is not allowed.
2. Changing the configuration of the Harmony PC's Network Interface Card 1 is not allowed.
3. Bridging of the two network cards of the Harmony PC is not allowed (no Internet Connection Sharing).

3.4.2 Hardware

Requirements for new PC hardware should be discussed in advance with Revvity Service to assess the detailed specification. Problems with hardware should also be reported to Revvity Service.

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1. The relocation of the Harmony PC is not allowed. This PC must have a direct connection to the Opera Phenix device. The relocation of any other hardware within the “Opera Phenix System” should be discussed with the Revvity Service in advance to ensure good reason for relocation, determine the most appropriate means of relocation and to ensure a fully operational “Opera Phenix System”.
2. Modification of any hardware of the Harmony PC is not allowed.
3. In order to get most performance in image evaluation from your office computer we highly recommend to check your PC’s memory module (DIMM) configuration. If your motherboard/CPU supports multichannel bandwidth operations then make sure that each channel has its own DIMM. Please refer to your local IT and/or to the PC’s manual.

3.4.3 Operating System, Software & Software Applications

Problems with software should be reported to the Revvity Service.

1. Supported operating system: Windows® 10, 64 bit, English
   - 32 bit operating systems are generally not supported.
   - The 64 bit versions of Windows® 8, Windows® 7, Windows Vista® and Windows® XP are not supported.
   - Using any virtual PC (e.g. VMWare, Virtual-PC) is not supported.
   - The pre-installed operating system of the Harmony PC (device PC) must not be reinstalled or replaced by any other version.
2. Deactivating the virtual memory for Microsoft Windows® is not allowed.
3. Making any changes in the [HKLM\Software\Revvity] registry is not allowed.
4. Make sure that the Local Security Policy of Windows® is configured correctly:
   - “Network access: Do not allow storage of credentials or .NET Passports for network authentication” must be set to “Disabled”. Otherwise you cannot create a new scheduled task via the Harmony software (if using the option “Run whether user is logged on or not”).
   - You can find this policy here: “Control Panel\All Control Panel Items\ Administrative Tools\Local Security Policy\Local Policies”.
5. The access rights for these data folders must not be modified:
   - C:\ProgramData\Revvity\hs or D:\hs
   - C:\ProgramData\Revvity\ODA_DATA
   - C:\ProgramData\PerkinElmer\hs
   - C:\ProgramData\PerkinElmer\ODA_DATA
6. The Windows® service account “NETWORKSERVICE” must have the "Modify" permission for these folders:
   - C:\ProgramData\Revvity\ODA_DATA\Backup
   - C:\ProgramData\PerkinElmer\ODA_DATA\Backup

Notice

The paths containing “PerkinElmer” may not exist for all installations. If these paths are missing, no permissions need to be set for them.

3.4.4 Data

1. Revvity is not liable for any data loss due to data management processes like backups, etc.
2. When hard disk space on the Harmony PC is exhausted we recommend to a) archive data that is (currently) not actively required or b) relocate images to free disk space. Relocated images remain accessible via the Harmony software.
3. Images should only be relocated to reliable servers which are integrated into the customer's backup system.
4. Revvity recommends a Gigabit Ethernet connection and integration of this server into the internal backup system.

3.4.5 Back Up

Warning

If no backup procedure is established, a crash of the system will not only mean the **loss of all data on the Harmony PC**, but also the **loss of all relocated images**. Without the meta data in the Opera Phenix database (ODA) these images cannot be accessed anymore and they cannot be re-imported into the system.

1. Revvity is not responsible for the implementation of an effective backup strategy.
2. Revvity is not responsible for the backup of any files from the “Opera Phenix System”.
3. Revvity recommends to backup all data on the Harmony PC once a day using third-party backup software, so that it can be restored in case of a crash. To restore such a backup you will need to contact Revvity Service.

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4. The following paths must be included to backup all Harmony data:
   - C:\ProgramData\Revvity\hs
     or
     D:\hs

     Please perform a short plate measurement to ensure that new measurement data is actually saved in one of these two paths (new subfolder named after the signature of the measurement should be created).
   - C:\ProgramData\Revvity\ODA_DATA\Backup
   - C:\ProgramData\Revvity\ODA_DATA\Images
   - C:\ProgramData\Revvity\ODA_DATA\Results
   - C:\ProgramData\Revvity\ODA_DATA\XML
   - C:\ProgramData\PerkinElmer\hs
   - C:\ProgramData\PerkinElmer\ODA_DATA\Backup
   - C:\ProgramData\PerkinElmer\ODA_DATA\Images
   - C:\ProgramData\PerkinElmer\ODA_DATA\Results
   - C:\ProgramData\PerkinElmer\ODA_DATA\XML

   Do **not** include the "SQLDB" subfolder or the entire "ODA_DATA" folder!

   Notice

   The paths containing “PerkinElmer” may not exist for all installations. If these paths are missing, they do not need to be backed up.

5. If images have been moved to a different location using the function **Relocate Images**, these relocated images must be subjected to a separate backup procedure and are not included when backing up the data on the Harmony PC.

For further information see Harmony online help, section “Backup all Data on Harmony PC”.

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3.4.6 Security Settings & Anti-Virus Protection

The Harmony software is tested with Microsoft Windows Defender.

1. Revvity is not responsible for the implementation of an effective virus security strategy.
2. It is suggested to exclude the following paths and file types from any security scan, as this slows down some Harmony processes tremendously:
   - C:\ProgramData\Revvity\hs
     or
     D:\hs

     Please perform a short plate measurement to ensure that new measurement data is actually saved in one of these two paths (new subfolder named after the signature of the measurement should be created).
   - C:\ProgramData\Revvity\ODA_DATA
   - C:\ProgramData\PerkinElmer\hs
   - C:\ProgramData\PerkinElmer\ODA_DATA
   - C:\Users\YourWindowsUserName\AppData\Local\Revvity\Acapella X.X\diskcache
   - On computers with Harmony office installation, exclude all *.tiff files.

   Notice
   - These settings are essential for smooth operation (especially for Fast Kinetics).
   - The paths containing “PerkinElmer” may not exist for all installations. If these paths are missing, they do not need to be excluded from security scans.
3. The “Opera Phenix System” needs the following ports for communication (TCP/UDP). Please ensure that these ports are unblocked:
   - 80, 8260, 8282, 8300

   For more details please see Harmony online help, section “Firewall Settings”.
4. In the unexpected case of returning a PC back to Revvity any security software like virus scanner or firewall has to be removed before shipping.

3.5 Computer Users

1. Training: Ensure an appropriate Harmony training for any user of the “Opera Phenix System”.

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2. User Accounts: The Harmony PC comes with two pre-defined Windows® user accounts:

   - **Harmony** (password “Harmony")
     This is the default Windows® user account for operating the Opera Phenix system.
   - **Administrator** (password “Harmony")
     This account is only required for installing additional software or updates.

   Modifying or deleting the existing user accounts is not recommended. If you change the default user account “Harmony", this will require additional modifications in Harmony and in the network (see Harmony online help, section “User Accounts"). The default user account ("Harmony") must have the following property:

   - Password does not expire.
     Otherwise the user account details for all relocate paths in the **Relocate Settings** have to be updated each time after changing the password.

3. Network share: Computers in the network which shall be used as destinations for the functions **Relocate Images** or **Write Archive** (as scheduled task or triggered manually) must be fully accessible for the default user account “Harmony” (read/write/delete access including the right to create/delete subfolders).

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3.6 LogMeIn Remote Support

Revvity uses the service of LogMeIn (https://secure.logmeinrescue.com/) to solve issues of “Opera Phenix Systems” by remote support. If LogMeIn support is not allowed please contact Revvity Service and ask for other options. Please note: Other options may increase costs for the service contract.

3.6.1 Minimum System Requirement

- Broadband connectivity to the internet (i.e. T1 or DSL)

3.6.2 Firewall Settings on User/Client Side

We recommend whitelisting the following URLs within your firewall and/or anti-virus programs to ensure connectivity to LogMeIn Rescue's services:

- ***.logmein.com, *.logmein.eu, *.logmeininc.com** – LogMeIn's main sites
- ***.logmeinrescue.com, *.logmeinrescue.eu** – Powers the LogMeIn Rescue service
- ***.logmein-gateway.com** - Part of the Rescue service
- ***.logmeinrescue-enterprise.com** – Powers account-specific Rescue features (only needed for Enterprise accounts)
- ***.accounts.logme.in** – Site allowing login to LogMeIn services
- ***.internapcdn.net, *.internap.net** – Powers updates to multiple LogMeIn products

The sites below facilitate a link to a LogMeIn Rescue technician through the PIN entry form:

- ***.LogMeIn123.com, *.LogMeIn123.eu, *.123rescue.com, *.support.me** – Sites used to connect to start a Rescue private session

Please note that this also includes sub-domains for these domains, so it is advisable to use wildcard rules wherever possible when you whitelist any LogMeIn service on your network. The client-to-host connection uses peer-to-peer connections, encrypted within a 256-bit AES tunnel. The services themselves communicate using port 443 (HTTPS/SSL) and port 80, so no additional ports need to be opened within a firewall. For a full list of all LogMeIn Product URLs, please visit https://support.logmeinrescue.com/rescue/help/allowlisting-and-rescue.

4 Confirmation Fax/Email

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Send Back (Fax or Email)

https://www.revvity.com/contact-us

Date:	
To:	Revvity
Fax Number:	
Customer:	
Subject:	Installation of Opera Phenix Plus

I have reviewed the Site Readiness Instructions and confirm that:

Meets Requirements	
☐	The available space at the installation location meets the space requirements of the Opera Phenix Plus (including upgrade components, if applicable). See chapter 2.3 .
☐	Additional space for unpacking/installing the Opera Phenix Plus is available as specified at the installation location (only during delivery). See chapter 2.3 .
☐	The laboratory table has a carrying capacity of at least 400 kg (882 lb).
☐	The laboratory meets the temperature (20 °C to 25 °C) and humidity (less than 70 % non condensing) requirements.
☐	The room is well ventilated and free from dust.
☐	At least three electrical outlets are available within 1.5 m (59 in) of the installation location.
☐	Electrical supply has a frequency of 50 or 60 Hz and a voltage in the range of 100 to 120 V or 220 to 240 V.
☐*	* *Only with optional ECO upgrade:* CO_2 supply is provided by the customer as specified in the gas requirements. See chapter 2.7 .
☐	The internal transportation of the shipment containers from the customer's receiving department right to its desired room position is guaranteed.
☐	Any customer-supplied PC for Harmony office installation meets the requirements described. See chapter 3.3 .
☐	The packing material will be disposed of by the customer.
☐	The local IT department has agreed to the integration of the Opera Phenix Plus system (including the Harmony PC running Windows® 10). The preferred solution for the network integration will be: ☐ No integration ☐ Simple Integration (chapter 3.1.2) ☐ Office PC – big (chapter 3.1.3.2) ☐ Office PC – small (chapter 3.1.3.1) ☐ Router (chapter 3.1.3.3)
☐	The required hardware for the network integration will meet the requirements and will be available for the installation. See chapter 3.1 .

Sincerely,

Name

Telephone Number

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www.revvity.com

revvity

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CF72 8YW, United Kingdom

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ALLEGATO 2

STELLA Sistema TELematico Acquisti Regione Lazio

Stazione appaltante: I.F.O.
Tipo Procedura: Negoziata
Titolo: Manutenzione triennale su sistema Opera Phenix**e numero registro di sistema:**PI098893-25

Offerta Economica

Numero Riga	DESCRIZIONE LOTTO	CODICE REGIONALE	DESCRIZIONE CODICE REGIONALE	UM OGGETTO INIZIATIVA	QUANTITA'	VALORE A BASE D'ASTA IVA ESCLUSA (2 dec.)	PREZZO OFFERTO PER UM IVA ESCLUSA (2 dec.)	VALORE OFFERTO (2 dec.)	ONERI AZIENDALI PER LA SICUREZZA (2 dec.)
0	Manutenzione triennale su sistema Opera Phenix	SR50421000-2	Servizi di riparazione e manutenzione di attrezzature mediche	EURO	1	178.351,00	178.351,00	178.351,00	2.140,20

VALORE DELL'OFFERTA ECONOMICA: 178.351,00 €

Ragione sociale del Concorrente: REVVITY ITALIA SPA
VIA GIOBERTI 1 - 20123 Milano (Milano)
C.F. 00742090152 P.IVA IT00742090152

Firmato digitalmente

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